

MINISTRY OF RECONSTRUCTION.

REPORT

OF THE

AGRICULTURAL POLICY SUB-COMMITTEE

OF THE

RECONSTRUCTION COMMITTEE,

APPOINTED IN AUGUST, 1916.

TO CONSIDER AND REPORT UPON THE METHODS OF EFFECTING AN INCREASE IN THE HOME-GROWN FOOD SUPPLIES, HAVING REGARD TO THE NEED OF SUCH INCREASE IN THE INTERESTS OF NATIONAL SECURITY.*

TOGETHER WITH REPORTS BY

SIR MATTHEW G. WALLACE.

Presented to Parliament by Command of His Majesty.



LONDON:
PUBLISHED BY HIS MAJESTY'S STATIONERY OFFICE.

To be purchased through any Bookseller or directly from
H.M. STATIONERY OFFICE at the following addresses:

IMPERIAL HOUSE, KINGSWAY, LONDON, W.C.2, and 28, ABINGDON STREET, LONDON, S.W.1;
37, PETER STREET, MANCHESTER; 1, ST. ANDREW'S CRESCENT, CARDIFF;
23, FORTH STREET, EDINBURGH;
or from E. PONSONBY, Ltd., 116, GRAFTON STREET, DUBLIN.

1918.

[Cd. 9079.] Price 1s. 3d. Net.

CONTENTS.

	Page
List of Members and Terms of Reference...	2
Summary of Contents of Report of the Sub-Committee	3
Historical Preface by Alexander Goddard...	7
 REPORT OF SUB-COMMITTEE.	
Part I	17
 REPORT BY SIR MATTHEW G. WALLACE:	
1st Report	28
 REPORT OF SUB-COMMITTEE (continued):	
Postscript to Part I	32
Part II.	35
Appendices	50
 REPORT BY SIR MATTHEW G. WALLACE:	
2nd Report	134

LIST OF MEMBERS AND TERMS OF REFERENCE.

1. The Prime Minister appointed in August, 1916, a Sub-Committee of the Reconstruction Committee composed as follows:—

The Rt. Hon. The Earl of Selborne, K.G., G.C.M.G. (*Chairman*),

†Sir Charles Bathurst, K.B.E., M.P.,

Mr. C. M. Douglas, C.B., D.Sc.,

The Rt. Hon. Sir Ailwyn Ffellowes, K.C.V.O.,

Mr. W. J. Fitzherbert-Brockholes, C.B.E.,

Sir Daniel Hall, K.C.B., F.R.S.,

Mr. W. A. Haviland,

Mr. C. Bryner Jones, M.Sc.,

†*The Rt. Hon. R. E. Prothero, M.V.O., M.P.,

Mr. G. G. Rea, C.B.E.

†The Rt. Hon. G. H. Roberts, M.P.,

The Hon. E. G. Strutt,

Sir Matthew Wallace,

Mr. H. L. French, O.B.E.,

Board of Agriculture and Fisheries,

Mr. Alexander Goddard,

Secretary of the Surveyors' Institution,

} *Joint Secretaries.*

with the following terms of reference:—

"Having regard to the need of increasing home-grown food supplies in the interest of national security, to consider and report upon the methods of effecting such increase."

2. In November, 1916 the Prime Minister appointed the following additional members to represent Irish interests on the Sub-Committee:—

The Most Rev. Dr. Kelly, Lord Bishop of Ross,

The Rt. Hon. Sir Horace C. Plunkett, K.C.V.O., F.R.S.

* Appointed in his capacity as a member of the Committee on Commercial and Industrial Policy.

† Resigned in February, 1917, owing to his Departmental duties making it impossible for him to attend the meetings of the Sub-Committee.

SUMMARY OF CONTENTS OF REPORT OF THE SUB-COMMITTEE.

	Paragraph	Page.
PART I.		
HISTORICAL PREFACE	1-29	7
INTRODUCTION	1-4	9
EFFECTS OF THE AGRICULTURAL DEPRESSION	5-10	12
Home production of wheat, 1790-1879	5	12
Fall in prices, 1875-1895	6	13
Change from arable farming to pasture	7	13
Reduction in number of persons engaged in agriculture	7	13
Increase in prices, 1894-1913	8	13
Arable land still converted into pasture	8	14
In Scotland land left longer in temporary lay	9	14
Lack of confidence the cause	9	14
Capital repelled from agriculture	10	14
NEED FOR A NEW AGRICULTURAL POLICY	11-25	
Imports of food stuffs, 1913	11	14
Comparison between home and German production	12	14
Increase in arable area necessary to secure any large increase in production	13	15
This applies to meat and milk as well as cereals	14	15
Estimates as to amount of increase possible	15	15
A definite policy for the future necessary	17	15
Directions in which agriculture might be improved	18	16
Greater stability of prices essential	19	16
Minimum wages and minimum prices of wheat and oats recommended	21	16
Conversion of every class of grass land not recommended	21	16
Possible need for tariff in future discussed	22	16
Reasons for not extending minimum price to barley	25	16
AGRICULTURAL WAGES (see also par. 63 of rep.).		
Official enquiry into rates of wages, 1907	26	16
Increase since 1907	27	17
Establishment of Wages Boards recommended	26	17
Constitution of Wages Boards	27	17
Duties of Wages Boards	28	17
Arrangements suggested for piece-work employment of non-able-bodied men, women, &c.	28	17
Projections in kind	29	18
Fine and low-rented cottages	30	18
PRICE OF WHEAT AND OATS.		
Minimum price of 3s. for wheat and 2s. for oats recommended	33	18
Method of calculating payments recommended	35 of rep.	19
Possible cost to the country	39	20
Object of the proposal advantage to the nation, not profit to the individual	40	20
Urgent need for restoration of confidence	41	20
Advantage of guarantee over tariff	42	20
Replies to possible objections	43 of rep.	21
EFFECT OF GUARANTEED PRICES ON RENTS.		
Minimum prices would not necessarily react on rents	46	21
Capital provided by owner and its influence on rents	47	21
Effect of establishing a Land Court would be to discourage investment of capital in improvements	48 of rep.	22
Establishment of minimum prices would justify pressure by State in favour of improved methods	50	23
Land Courts not recommended	51	23
METHOD OF SECURING INCREASED PRODUCTION.		
Need for better cultivation to be made known	52	23
General agricultural survey recommended by panel of Assessors	54	24
Procedure to be followed after survey	55	24
Board of Agriculture to have power to take over management of estates	56	25
Implied duty on owners and occupiers to manage and cultivate land well	57	25
Procedure for removal of bad tenants	58	25
Co-operation with National Agricultural Councils	59	26
Improvement of common grazing lands	60	26
Need for erection of cottages	61	26
Greater powers of using settled money for estate improvements desirable	62	26
Need for technical advice	63	26
SUGAR BEET.		
Advantages of developing sugar beet industry	64	26
Difficulties at present in the way	65	26
State assistance required	67	27
POSTSCRIPT TO PART I.		
Effect of minimum laid down by Cereals Production Act	69	28
Maximum prices should be discontinued as soon as possible	70	28
Wages Board in Dublin to be made permanent	72	28
More cottages, let at economic rents, to be erected	73	28
Difference of conditions obtaining in Ireland	75	28
What has been done in Ireland to enforce cultivation under Defence of Realm Act	77	29
Powers of Department of Agriculture under Defence of Realm Act with regard to enforcing proper cultivation should be extended and made permanent	79	29

PART II

Paragraph. Page.

SCOPE AND LIMITATION OF THE ENQUIRY.

Reasons for issuing Interim Report ...	81	35
The four principal objects towards which the enquiry has been directed ...	82	35

THE DEPARTMENTS OF AGRICULTURE.

Cases resulting in three separate Departments ...	83	56
No separate Department for Wales recommended ...	83	56

Ireland

Irish Department, history of origin ...	85	36
Irish Council of Agriculture ...	88	36
Irish Agricultural Board ...	90	36
Income of Department ...	91	36
Methods adopted by Department in carrying on its work ...	92	37
No change in Irish Department recommended ...	95	37

Scotland

Scottish Board of Agriculture, history of origin ...	98	37
Do. do. methods of carrying on its work ...	99	37
Do. do. now under Secretary for Scotland ...	100	37
Appointment of directly responsible Minister recommended ...	101	38
National Council of Agriculture and Advisory Committee recommended ...	101	38
Statutory County Agricultural Committees recommended ...	101	38

England and Wales

Board of Agriculture and Fisheries, history of origin ...	102	38
Do. do. organisation ...	103	38
Case for separate Fisheries Board ...	105	39
Department should be united and its staff strengthened ...	106	39
Statutory County Agricultural Committees recommended ...	107	39
National Agricultural Council recommended ...	108	39
National Agricultural Council for Wales ...	109	40
Agricultural Advisory Committee ...	110	40
Delegates from the four National Agricultural Councils should confer annually ...	112	40

AGRICULTURAL INSTRUCTION AND RESEARCH.

Ireland

System adopted in Ireland ...	114	40
Co-operation of County Agricultural Committees ...	115	41
Winter schools ...	116	41
Greater provision for scientific research needed ...	117	41

Scotland

System adopted in Scotland ...	118	41
Instruction in Agriculture centralised and not under County Councils ...	121	41
Organisation of Agricultural Colleges described ...	123	41
Further development in work done by Agricultural Colleges recommended, especially in research ...	124	41

England and Wales

Division of responsibility between Boards of Agriculture and Education ...	127	42
Scope of activities of the Board of Education ...	128	42
Do. Board of Agriculture ...	131	43
Increase of letter by grants from Development Commissions ...	132	43
Research Institutes ...	135	44
Arrangements with Development Commissions for setting up Advisory Councils, Farm Schools and Institutes ...	136	44
County Administration: Sources of Funds ...	138	45
Difficulty of stimulating backward Counties ...	140	45
Reasons why County Administration has proved unsatisfactory ...	143	45
Responsibility for Agricultural Education should be definitely placed on Board of Agriculture and not borne by Imperial Exchequer ...	143	45
Co-operation with Welsh Agricultural Council recommended ...	146	45

England and Wales and Scotland

Elementary and Secondary Education, need for rural bias ...	148	46
Continuance Schools: Agriculture should be allowed as an alternative subject ...	153	47
Secondary Schools, improved ruralised curriculum required and better prospects for teachers required ...	156	47
Demonstration Farms should be established ...	159	47
General direction in which agricultural instruction should proceed ...	161	48
Need for large farms run on business lines ...	162	48
Need for greater concentration on research work ...	163	48
Agricultural machinery ...	166	49
New Crops ...	167	49
Live stock schemes should be further developed ...	168	49
Milk recording societies ...	169	49
Check on use of bad sires required ...	170	49
Tuberculosis in cattle ...	171	50
Live stock officers should be servants of the Board of Agriculture ...	174	50
Expenditure on Agricultural education in different countries ...	175	50
Women's part in agricultural reconstruction ...	176	50
Education of landowners and agents ...	178	50

ORGANISATION AND CO-OPERATION.

Objects of agricultural organisation ...	179	50
Difficulties in the way of combination ...	181	51
Existing Organisation Societies and their policy ...	184	52
The Irish Agricultural Organisation Society, historical ...	186	53
The English Agricultural Organisation Society, historical ...	188	53
The Scottish Agricultural Organisation Society and Small holders Organisation, historical ...	189	53
The future of the Co-operative Movement ...	191	54
Need for the further support from national funds ...	195	54

PART II.—continued.

AGRICULTURAL CREDIT.

Paragraph. Page.

The organisation of credit in different countries	200	36
Board of Agriculture Report on Agricultural Credit in Germany	205	56
Requirements of Ireland	207	57
Requirements of Scotland	211	57
Requirements of England	214	58
Proceedure under Land Improvement Act	215	58
Preliminary expenses in respect of loans should be reduced	215	58
Methods of obtaining credit through Co-operative Trading Societies and Central Trading		
Board recommended	219	59
Deposits in Post Office Savings Bank should be available for use of Central Trading Boards	223	60
Organised agricultural credit should in the future become self-supporting	224	60

SMALLHOLDINGS: OWNERSHIP AND TENANCY.

Small and large holdings as food producers	225	60
Ownership and Tenancy, conflict of opinion	226	60
The Small Land-Holders (Scotland) Act, special form of tenure. Enquiry recommended	227	60
Small Holdings Acts (England and Wales): position reviewed	227	60
Report of Departmental Committee on settlement of exchanged soils and soldons on the land	228	61
The Maudslayi and Ruxton Colonies	228	61
Both large and small holdings are required; and both occupying ownerships and tenancies	229	61
The equipment of small holdings	230	62
Schemes of purchase recommended by Lord Haverham's Committee	231	62
Sir Edward Heiden's Scheme, adopted by majority of committee	233	63
Sir Tristram Eve's Minority Scheme	235	63
Mr. Jesse Collings' Land Purchase Bill	236	63
The Instalment System v. the Annuity System	237	63
Effect of the change in rate of interest on purchase scheme	238	64
Adoption of principle of Land Purchase Bill recommended	241	64

VILLAGE RECONSTRUCTION, INDUSTRIES AND RURAL LIFE.

Need for increased attractions of rural life	242	65
Scheme for village reconstruction	245	65
The development of rural industries and Women's Institutes should be a recognised activity of the A.O.S.	245	65

TITHE REDEMPTION.

Proposal to free land of tithe by handing over other land for village reconstruction	247	65
Method of procedure recommended	249	66

LOCAL TAXATION.

Grounds on which claims for amendment are based	250	66
Recommendations of Royal Commission on Agriculture, 1903	252	66
Recommendations of Royal Commission on Local Taxation, 1905	253	66
Recommendations of Departmental Committee on Local Taxation, 1912	255	67
Defects of principles on which local taxation is based	257	67
Injurious effects on agriculture	259	68
Connection between local taxation and farmers' assessments to income tax	260	68
Periodic re-valuation recommended	262	68
Statistics given showing increases in local burdens	264	69
Burden on rural as compared with personal property	265	69
Recommendations for more equitable division of burden of national services between local and national funds	269	70

THE AGRICULTURAL HOLDINGS ACTS.

Historical retrospect	272	71
Compensation for improvements	275	71
Cumulative facility	276	72
Disputations	277	72
Sections 1 (2) 4 and 5	278	72
Compensation for disturbance	279	73
Damage by game	280	73
Freedom of cropping and disposal of produce	281	73
Procedure: purpose for reducing cost	283	73
Recommendations re notices	284	74
Arbitration: need for qualified men	285	74
1st Schedule: changes recommended	286	74
2nd Schedule: changes recommended	287	74
General: Sections 3 (3), 23 (3), 35 (3), 40...	288	75
Mortgages in possession and compensation for disturbances	289	75
Market Gardens: present deadlock	290	75
The Breckham Custom	291	76
Report of Departmental Committee on Fruit Industry, 1906	294	76
Adoption of principle of Breckham Custom recommended	296	76
Agreements outside above to be permitted subject to approval by Board of Agriculture	299	76
Procedure recommended when owner refuses to permit land to be used for market gardening	300	76
Undeveloped Land Duty	301	77

RECLAMATION AND DRAINAGE

Reclamation work carried out in Ireland	303	77
Memorandum on Reclamation by Sir Daniel Hall	304	80
Memorandum on Reclamation by Sir S. Oliver and Mr. T. H. Middleton	305	80
Options of Scottish and Welsh representatives	307	80
Memorandum by Development Commissioners	309	81
Difficulties from multiplicity of ownership, etc.	310	81
Parliament should set up a reclamation agency with power to acquire land for that purpose, and should determine the principle on which land should be acquired for reclamation	311	81

PART II.—continued.

	Paragraph.	Page
RECLAMATION AND DRAINAGE—continued.		
A special Sub-Committee of Reconstruction Committee should be set up to consider principles on which land should be acquired	312	82
Doubts as to suitability of discharged soldier and soldier labour... ..	313	82
Existing Land Drainage Acts	314	82
Land Drainage Act, 1914, should be continued until Parliament deals with whole subject in a comprehensive manner	325	88
Reclamation and Land Drainage Authorities should be set up for each of the three Kingdoms	325	88
Duties of these Authorities	326	88
Agricultural Committees should be responsible for minor works	331	84
DEER FORESTS.		
Increase in area under deer forests	332	84
Each land now afforested might carry sheep	333	84
Difficulties in way of de-afforestation	334	84
Land suitable for agriculture or forestry should be utilized for these purposes. Special survey recommended	336	85
National policy of afforestation, and intermingling plantations and small-holdings, recommended	339	85
FIRE ELIMINATION OF PESTS AND WEEDS.		
Powers of Irish Department not possessed by English and Scottish Boards of Agriculture	340	85
Legislation to prohibit sale of grass and clover seeds without guarantee of purity, germination, etc., and to schedule and deal with weeds, recommended	341	85
Similar legislation for elimination of animal pests, needed	342	85
The Agricultural Committee to be the responsible authorities	345	85
THE SUPPLY OF ARTIFICIAL MANURES.		
The position with regard to the supply of artificial manures is likely to be satisfactory	346	86
WEIGHTS AND MEASURES.		
Inconvenience caused by present diversity of weights and measures	347	86
Examples of diversity given	348	86
Proposals of Central Chamber of Agriculture in 1929 and 1947... ..	350	87
Special Sub-committee of Reconstruction Committee recommended to consider whole subject of weights and measures	351	87
General principles recommended	351	87
TRANSPORT.		
Dependence of agriculture on transport facilities	352	87
Reasons why coach are little used for agricultural produce	355	88
Comparison between rates and services of home and foreign railways	356	88
Preferential treatment... ..	356	88
Special Sub-committee of Reconstruction Committee recommended	357	88
CONCLUSIONS.		
Principles of Corn Production Act should be adopted as the permanent policy of the country	358	88
Parts I and II of the Report must be looked upon as complementary	359	89
The country must be independent of overseas supplies of corn, potatoes and dairy produce, and less dependent on overseas supplies of wool... ..	360	89
Increased cost of production to the farmer after the war... ..	361	89
Land under plough grows more food than under grass	362	89
Fixity of tenure incompatible with increased food production	363	90
Replies to criticism of recommendations in Part I of Report	365	90

HISTORICAL PREFACE TO THE REPORT OF THE AGRICULTURAL POLICY SUB-COMMITTEE

By ALEXANDER GORDARD.

1. A brief survey of the agricultural conditions during the last hundred years, and the political and social factors exercising an influence on these conditions, may conduce towards an understanding of the existing agricultural position.

2. It is now clear to us, as the possessors of a certain amount of historical perspective, that the change in the balance of political power which followed the Reform Act of 1832, and invested in the industrial classes the ability to dictate the national policy, was bound inevitably to prove detrimental to agricultural interests, unless something of vital importance occurred to open the eyes of the community to their dependence upon the home-grown food supply.

3. At the beginning of the 19th Century certain economic factors, likely to exercise a profound influence on the future of agriculture, were beginning to make themselves felt. Of these the first, and perhaps the most important, was the rapid increase in the population. The Census of 1811 for England and Wales showed a total of 10,150,615 persons, 125 years having been required (though early data are not very reliable) to double the population. Subsequently the increase continued at a greatly accelerated rate, so that at the 1911 Census we find a total of 36,070,492 for England and Wales, and 45,370,530 for the United Kingdom. A month before the outbreak of war the latter was officially estimated at 46,080,249.

4. In spite of this increase in population the country remained practically self-supporting as regards food until well on into the nineteenth century, the Napoleonic Wars having resulted in improved methods and largely increasing production. During the first ten years of the century imported wheat only averaged about 600,000 quarters per annum, and this amount was reduced to 468,518 quarters per annum during the next ten years. Yet statistics show that from 1786 onwards the country was beginning to import grain on an increasing scale, and from 1793 the imports of this commodity have always exceeded the exports. At the present time, although we produce practically all the fresh milk we require, it is quite otherwise with other food essentials, our production of wheat being roughly one-fifth of the amount consumed, of meat rather more than one-half, butter and margarine one-fourth, and cheese one-fifth.

5. At this distance of time we can see that in the absence of measures to the contrary, agriculture was bound to lose pride of place as the most considered national industry. In the first half of the last century manufactures, especially of cotton goods, were assuming increasing importance, attracting labour to industrial pursuits and creating a demand for cheap food to support cheap labour for manufacturing purposes. The centre of gravity of the nation was, in point of fact, beginning to shift from the country to the town, a process associated with increasing facilities of communication by road and canal, and the beginning of railway enterprise. By 1834 there were 4,000 miles of canals and navigable rivers available in Great Britain; and even more significant was the opening of the Stockton to Darlington Railway in 1821, followed by that between Liverpool and Manchester in 1830, and the London and Birmingham line in 1838.

6. In the year 1815, when peace was finally declared, the British farmer was living in a species of fool's paradise, the assumption apparently being that the agricultural prosperity due to the war might be maintained in times of peace, while the true meaning of the slowly increasing imports of food was not realised. War had been largely responsible for an enlargement of the cultivated area, a more scientific method of farming, and improvements in live stock and implements. But it had also connoted an advance in the scale of living, accompanied by an alarming growth in rates and taxes. Even advances in method were not unattended with trouble, as witness later the Agrarian riots of 1830-31, partly directed against labour-saving machinery. The rise of manufactures, also, helped to upset the stability of village life, and to promote rural depopulation in a particularly insidious way, by gradually destroying the domestic stage of industry, especially as regards the spinning and weaving which from time immemorial had played an important part in the life of rural communities. Small farmers and labourers were hard hit by the decline of homespun fabrics, and this helped to aggravate the many troubles associated with agricultural labour from the 'thirties onwards.

7. These difficulties were doubtless intensified by the rapid progress of enclosures during this period; for although the discontinuance of the open field system resulted in a substantial advancement in agricultural methods and in an increased production of food, the manner in which the enclosures were carried out operated hardly upon the labouring classes and was calculated to embitter them against their employers. The labourers were aware that the foremen of many had, as openfield farmers, tilled their own land, and the enclosures were only too often made with scant consideration for the rights of the smaller men.

8. The passing of the Reform Act in 1832, as has already been indicated, marks an epoch in English history in its effect upon the agricultural and landed interests. For upwards of a century the political influence attaching to the mere possession of land had tended to increase, a circumstance to which the existence of "fancy franchises" enabling landowners to nominate

Members of Parliament, or to create in constituencies a body of dependant voters sufficient to turn an election, contributed. It followed that ambitious but landless men who had money in trade eagerly sought every opportunity of becoming landowners, while those who already possessed land endeavoured to enlarge and consolidate their estates. The Enclosure Act, offered facilities for this, and not only led to the extinction of many small tenant farmers, but also had much to do with the decline in the number of yeomen and small freeholders which took place with extraordinary rapidity during this period.

9. Under the conditions then obtaining it followed that both Houses of Parliament were mainly recruited from among the landowning classes, and the character of legislation, particularly in connection with subjects such as enclosures, corn duties and poor law, was much affected by the fact. With the Reform Act, however, the first real step towards democratizing Parliament was taken, and interests in some ways directly opposed to those of the land began to exert their influence on the country's affairs. Although perhaps not at first recognised, and although no great trial of strength took place until the repeal of the Corn Laws became a burning question nearly twenty years later, the political value of land had received its death blow.

10. In 1814 the Corn Laws, by which for many years somewhat ineffectual attempts had been made to steady prices by regulating imports and exports of grain, ceased to be operative as regards the latter, and the following year what is sometimes called "the" Corn Law was passed. This it is true afforded a modicum of protection, but even its primary aim of maintaining war prices in times of peace was not attained, the average decennial price of wheat being 93s. 6d. for the years 1805-14, 68s. 9d. for 1815-24, and 60s. 3d. for 1825-1834. Meanwhile the growing population and developing manufactures created an increasing demand for cheap food, which resulted in the repeal of the Corn Laws in 1846 and their final abolition in 1849. A nominal registration duty of one shilling a quarter on foreign imported corn continued to be charged, but even this was dropped in 1869. We see now that the diminished political power of the agricultural interest made this change inevitable, but its coming was doubtless accelerated by the harvest failure and potato famine which created such serious alarm in 1845.

11. The year 1846 marks the triumph of the democracy over the landowner, and the abandonment of the principle that the food of the kingdom should be produced from the land of the kingdom, the accepted policy for the future being the provision of cheap food for the consumer, especially the operative, who was thereby made a cheaper labour machine for the benefit of his employer. Prior to the present war, no great emergency arose which directed the national attention to the importance of a well secured supply of home-grown food. The interests of agriculture were not considered and the farmer was left to shift for himself. He was no longer looked upon as an integral and essential part of the national economic organism, and gradually came to occupy a merely subsidiary position, allowed to make a living if and when uncontrolled prices enabled him to do so. These effects were not foreseen at the time. Few persons if any anticipated that the increase of population would so speedily outstrip that of the soil, and indeed many convinced Free Traders held the view that the stimulus of competition would enable the home output of food to keep pace with the needs of the community. Distance still gave a natural protection to the home supply, and the effect of steam in flooding the home markets with cheaply produced grain from virgin soils at prices with which the home-grown article could not compete, could not be foreseen.

12. To us it is obvious that in the early 'thirties increased effort was essential if agriculture was to hold the position it had attained during the period of somewhat fictitious prosperity engendered by the long war, which had attracted immense sums of money for the purchase and improvement of land. It is estimated that during the war rents had doubled and much land had been brought into cultivation which under less favourable conditions could give no adequate return. But a period of acute depression had followed, and farmers, heavily rated and taxed, were in most cases content to exhaust the fertility of the soil, accumulated in more prosperous times. The Poor Laws, too, were of a most unsatisfactory description, leading direct encouragement to pauperization and deterioration in the quality of labour, while in many cases the method of collecting tithes gave rise to much friction and ill-feeling. The net result was a general retrograde movement involving not only farmers but numerous associated trades, and during the cycle of years preceding 1836 much land was recklessly thrown upon the market.

13. During this period, however, some relief was afforded to agriculture by legislative methods. A Commission of Enquiry into the Poor Laws was appointed in 1832 which resulted in the statute of 1834. This removed the premium on pauperization which had obtained under the old system and led to a rapid fall in the amount of public money spent in relief. In 1832 this had exceeded seven million sterling, a sum which dropped to something over four millions in 1839. The Tithe Commutation Act of 1836 dealt with another agricultural grievance, and the Highway Act of 1835 abolished statute labour for minor roads and substituted a highway rate. These measures, adjustments of rents, and an enlarging market for agricultural produce resulting from industrial expansion paved the way for better times, and a Select Committee which sat in 1836 demonstrated a certain revival.

14. But more wide-reaching than any legislative measures was the development of the railway system, which now began to exercise an increasing influence. The introduction of steam power had already had an important effect on the industrial life of the nation, and it was now to throw open the markets thus created to produce from all parts of the kingdom. The years 1837-75 broadly coincide with a period of increasing though fluctuating agricultural prosperity, accompanied by a marked progress in scientific methods, a progress which culminated in the great scientific revival of the second half of the nineteenth century. The foundation of

the Royal Agricultural Society of England in 1838 was an important event, and its motto, "Practice with Science," embodied the central idea of the most enlightened agriculturists of the time. Philip Pusey, in the first number of its *Journal* (1839), speaks of improvements in manures, seeds, machinery, &c.; and alludes to the good work being done by agricultural societies and clubs. The growing importance of science was demonstrated in the early 'forties by the publication of Liebig's classic work on agricultural chemistry (1840), and the establishment of the Rothamsted Research Station by Lawes and Gilbert (1843); while the foundation of the Royal Agricultural College, Cirencester (1845), was the first step in the direction of the system of agricultural education which is still in course of construction.

15. Despite the withdrawal of protective measures in 1846 farmers managed to do well owing to the fact that the country was practically self-supporting as regards food. The following table shows the quinquennial average price of wheat from 1841 to 1875:—

	s.	d.
1841-45	54	9
1846-50	61	10
1851-55	55	11
1856-60	53	4
1861-65	47	6
1866-70	54	7
1870-75	54	8

16. It is true that from 1849 to 1852 a sharp cycle of severe depression checked what was otherwise a period of advance and prosperity, wheat falling to 38s. 6d. in 1851, the lowest price touched for seventy years; but this was immediately followed by what has been called the "Golden Age" of English agriculture, to which the enhanced prices of the Crimean war and the great gold finds of Australia and California contributed. During this period a notable advance was made in the manufacture of farm implements and machinery, and in the knowledge of drainage and other mechanical means of increasing the productivity of the soil, which tended to make more effective the scientific research and experiments with feeding stuffs which had by then begun to attract universal attention.

17. Both in the improvement of live stock and in the application of scientific methods to farming operations the country owes much to the landowners of that day. vast sums were expended by them on the improvement of their estates, in the erection of farm buildings, and in the drainage of water-logged land; and it is perhaps not too much to say that the prominent position attained by British agriculture was largely due to their efforts.

18. During the "seventies" agriculture continued to be reasonably prosperous—partly as a result of the inflation of prices due to the Franco-Prussian War—until 1875, when a period of depression set in which was acute to 1884, and again became serious in 1893. Reckless speculation, followed by commercial collapse, helped this decline, which was intensified by a series of bad seasons, culminating in the disastrous year of 1879. In that year losses from diseases among cattle and sheep were aggravated by persistent rain and a seriously deficient harvest. In many cases crops could not be secured, and the yield from those which were hardly exceeded half the normal amount. An even more serious factor was the growing importation of American wheat, which began to make itself felt in 1872. The following table shows that from that date until 1914 the country was increasingly dependent upon external sources for its wheat supply.

WHEAT GROWN AND IMPORTED.

Year.	Average grown.	Home-grown produce (cwt.)	Wheat & Flour Imported.	Percentage of Home-grown.
	Acres.	Quarterns.	Quarterns (of 480 lbs.).	
1830	—	—	—	—
1839	—	—	—	—
1840	4,019,725	*13,135,124	7,364,423	64·9
1870	3,741,457	*13,419,156	8,411,437	60·9
1880	3,028,074	*9,905,020	15,573,954	23·0
1890	2,478,677	9,499,235	19,221,371	38·1
1900	1,698,813	6,710,262	25,004,072	22·8
1910	1,826,455	7,074,179	27,779,686	20·3
1914	1,804,932	7,806,041	27,909,681	22·1

* Gilbert & Lawes' Estimates.

19. The alarming condition of the agricultural industry called for immediate enquiry, and in 1879 a Royal Commission, with the Duke of Richmond and Gordon as Chairman, was appointed for that purpose. The Report of the Commission was unanimous as to the extent and severity of the distress, which it attributed mainly to bad seasons, and secondly to foreign competition aggravated by the increased cost of production and heavy losses from diseases of live stock.

20. Even before the depression made itself felt farmers had shown a disposition to turn their attention to grass farming as cheaper and less risky than arable; but as the ruinous competition of cheap imported grain became more insistent, more and more arable land was

converted into permanent pasture or allowed to revert to its natural unimproved state. The following table shows that between 1870 and 1914 the arable land of the United Kingdom was reduced by over 4½ million acres.

LAND UNDER CULTIVATION.

United Kingdom.

Year.	Arable Land.	Pasture Land.	Total Average.	Percentage Arable.
	Acres.	Acres.	Acres.	
1870	24,662,075	22,085,295	46,747,370	52·2
1880	22,821,008	24,717,692	47,538,700	48·1
1890	20,929,864	27,116,787	48,046,655	43·6
1900	19,526,468	28,266,712	47,793,180	40·9
1910	18,608,821	27,527,846	46,136,667	40·6
1914	19,414,166	27,349,650	46,763,816	41·5

No statistics are available prior to 1867.

21. Statistics showing the effect of these changes on the number of persons engaged in agriculture may be of interest, and the following Table prepared from the figures returned for the United Kingdom at each Census from 1831 to 1911 is therefore inserted. It should be remembered that owing to the different methods of classification adopted the returns are not exactly comparable. They may, however, be taken as sufficiently approximate for the purpose of a general survey.

NUMBER OF PERSONS ENGAGED IN AGRICULTURE IN THE UNITED KINGDOM AS RETURNED AT EACH CENSUS FROM 1831-1911.

Year.	Farmers and Graziers.		Farmers' Relatives.	Farm Employees.		Total.	
	Males.	Females.	Males.	Males.	Females.	Males.	Females.
1831	1,095,503	*	†	1,434,808	*	—	—
1841	733,410	41,100	†	2,299,841	182,354	—	—
1851	650,202	47,488	†	2,198,315	346,324	—	—
1861	695,135	56,579	†	2,042,857	289,081	—	—
1871	666,216	62,345	127,274	1,735,395	182,711	2,516,756	246,256
1881	633,787	67,267	180,965	1,389,704	180,392	2,824,456	217,659
1891	597,878	97,067	297,020	1,247,627	78,248	2,142,604	170,815
1901	577,177	99,004	320,970	1,054,968	48,354	1,953,056	148,258
1911	581,300	81,433	383,562	1,097,902	38,569	1,962,754	112,002

* Presumably included with males.

† Not returned as such (except for Great Britain in 1851 and 1861).

22. The introduction of refrigerator methods into rapid steamships carrying agricultural imports began in 1877 to counteract the benefit at first derived by the conversion of arable into grass land. To compete in markets with imported live animals was more or less possible, but the lowered prices caused by a glut of frozen or chilled meat and dairy products from overseas reduced to a minimum the profits of even those branches of the industry which had previously been able to hold their own.

23. The following table, showing the average prices of staple farm products shows how seriously foreign competition affected the value of farm products at this period.

AVERAGE PRICES OF BRITISH CORN, BEEF, MUTTON AND WOOL.

Year.	Wheat* per qr.		Barley* per qr.		Oats* per qr.		Beef† per lb.		Mutton† per lb.		Wool‡ per lb.	
	s.	d.	s.	d.	s.	d.	d.	d.	d.	d.	d.	d.
1830	64	3	82	7	24	5	—	—	—	—	—	9
1850	60	3	25	5	16	5	—	—	—	—	—	11
1860	33	3	59	7	24	5	—	—	—	—	—	20½
1870	46	11	34	7	22	10	4½ to 7½	5½ to 7½	3½ to 7½	—	—	18½
1880	44	4	33	1	23	1	6½ " 7½	6½ " 8½	3½ " 8½	—	—	15½
1890	52	11	28	8	18	7	3½ " 6½	3½ " 8	3½ " 8	—	—	17
1900	26	11	24	11	17	7	3½ " 6½	3½ " 7½	3½ " 7½	—	—	7½
1910	31	8	25	1	17	4	3½ " 6½	3½ " 7½	3½ " 7½	—	—	9½
1914	34	11	27	2	20	11	3½ " 6½	4 " 8½	—	—	—	13½

* Average prices per imperial quarter in England and Wales.

† Prices at London Central Market, compiled from the Quarterly Returns of the Registrar-General up to 1890, for later years from the quotations given weekly in the "Agricultural Gazette."

‡ Prices of Lincoln Wool, half hog, extracted from the "Yorkshire Observer" wool tables.

24. In 1893 the position, which had already become alarming, was aggravated by an exceptional drought, and disaster scarcely less than that of 1879 followed. In September of that year another Royal Commission was appointed to enquire into the depression in agriculture. It reported in 1897 that since the Report of the previous Commission the value of agricultural produce had approximately halved, while the cost of production had increased.

25. It would be difficult to paint in too black colours the depression of the last quarter of the 19th century, affecting as it did first the corn lands of the south and west, and later the pasture districts in other parts of the country. A perusal of the reports of the Assistant Commissioners presented to the Royal Commission throw a searching light upon the position. Bankruptcies among farmers increased to an alarming extent; many lost their whole capital, while others were only able to save a part by withdrawing it in time from the failing industry, or through the generous assistance of their landlords. The latter class in years of adversity, as earlier in those of prosperity, accepted the responsibility of their position. In spite of the reduced incomes and the depreciated value of their estates remissions of rent up to fifty per cent. were common, and large sums were expended on manures, on permanent seeds, on the erection of Dutch barns, or on other additions to buildings for the purpose of economising labour or of meeting changed methods of farming. In some cases land became derelict, but much which was thrown upon the hands of the owners was cultivated by them, not with any prospects of profit, but because the responsibility of ownership imposed upon them the duty of seeing that the land in their possession was not allowed to fall out of cultivation. The effect of the depression was felt with peculiar severity by yeomen and small occupying owners. Standing as they did with no one to share their burden, they found themselves unable to meet their liabilities in respect of fixed charges and mortgage interest, and this hard working and independent class, which had declined in numbers during the hard times in the earlier half of the century, practically ceased to exist. Labourers, having less to lose, suffered perhaps to an even greater extent than their employers. While the remuneration for every other class of labour was steadily increasing, the wages of the agricultural labourer actually declined, and it was not until well into the new century that the level of the early "seventies" was again reached.

26. By the commencement of the new century the crisis had spent itself. Farmers had come thoroughly to understand that they must depend upon themselves, and that the methods they adopted were not looked upon as of concern to the nation. For the future the smaller the capital upon which they could run their business and the less their expenditure upon labour, manures, &c., the safer would they be from the disaster which had befallen the preceding generation.

27. From 1906 up to the commencement of the war there were growing indications of a revival in agriculture, based partly on some improvement in prices and partly on the new methods which had been adopted. But confidence had not been restored for the lesson of the depression had been well learnt; arable land continued to be converted into pasture, and intensive methods of production to be neglected. Under the new conditions the industry began to revive, but it should be remembered that the prosperity of the farmer does not necessarily connote a corresponding degree of prosperity in agriculture, when viewed from the national standpoint. The home output of food has steadily decreased since the "seventies," and although the farmer was beginning to make a better livelihood, it was by methods which did not promise to add to the national security in this respect. As Sir Daniel Hall, K.C.B., says, in the Preface to "Agriculture after the War":—

"A man may be a first-rate farmer as regards his own personal success and yet be pursuing a policy inimical to the ultimate welfare of the State. Before one attaches any blame to the current race of farmers one must consider the extraordinary crisis through which they have passed in the last thirty years without any attention or assistance from the State, then one will be more inclined to praise them for having contrived to remain in existence at all."

28. This then was the position in August, 1914. Why was it that while British agriculture had been declining, its output dwindling, and cheap food from overseas playing an increasingly dominant part in feeding the people, the exact opposite had taken place in Germany, a country possessing on the whole a poorer soil and less favourable climate. We may turn to the pamphlet on "The Recent Development of German Agriculture" (Cd. 3305), by Mr. T. H. Middleton, C.B., Assistant Secretary, the Board of Agriculture and Fisheries, for an answer.

29. He states that "It is not possible to resist the conclusion that it was the economic policy adopted by his country that prevented the German from following the methods of the British farmer. The agricultural policy adopted by Germany was indeed extraordinarily successful in restoring confidence and emboldening farmers to resort to intensive cultivation." (Pp. 32-33.)

"The main value of the tariff policy to German agriculture was the sense of security which it created in the farmer. It was the conviction that he was essential to the community, and that the community would not permit his land to go out of cultivation, rather than the prospect of the receiving an extra two marks per 100 kilos. for his wheat after the year 1906 that stirred the German agriculturist of the new century to make an effort; and, it may be added, it was the knowledge that his grain was not wanted and that his fellow countrymen did not depend upon his exertions that led the British farmer, at the same period, to cut down expense and reduce, or at least fail to increase, the productivity of his land." (P. 34.)

RECONSTRUCTION COMMITTEE—AGRICULTURAL POLICY SUB-COMMITTEE.

PART I. OF THE REPORT.

To the RT. HON. D. LLOYD GEORGE, M.P., Prime Minister.

SIR,
THE following are the terms of reference given to us by Mr. Asquith:—
“ Having regard to the need of increased home-grown food supplies in the interest
“ of national security, to consider and report upon the methods of effecting such
“ increase ”;

and he also gave us the title of the “ Agricultural Policy Sub-Committee ” of the Reconstruction Committee.

2. We desire at the outset to explain that we were informed that the question asked us did not refer to war but to post-war conditions, and our Report is drawn up from that point of view only. Nevertheless, it is evident that for some time after the War agriculture must be seriously affected by the conditions which have prevailed during the War. Any inducements and assistance, which the farmers receive now to keep their fields cultivated, or to cultivate additional land, will bear fruit in the post-war period, and may even be considered as direct steps towards the object we have in view. We trust, therefore, that we shall not be considered to have passed beyond our legitimate subject when we express our conviction that farmers need and deserve all the help and encouragement which His Majesty's Government can possibly give them at the present time.

3. The experience of the War has shown that the dependence of the United Kingdom on imported food has already involved the country in special difficulties, and in the future may become a source of real danger. We have found that it has increased the cost of the War; aggravated the difficult problem of regulating foreign exchange; and absorbed an undue proportion of the tonnage of the mercantile marine at a time when its services have been so sorely needed for other purposes. We are conscious also of the possibility of a development in the construction of submarines which in a future war might make impossible a continuous supply of food to the people of the United Kingdom from overseas. We hope and pray that the greater sanity of nations and their increased obedience to the Divine law may save our country from any repetition of the hideous catastrophe which has to-day overwhelmed Europe, but we can feel no positive assurance that this will be the case, and we do not think that we should be faithful to our trust for our descendants if we omitted to take any practicable measures to increase the national safety in a future time of need. We can well imagine that in some future struggle the comparative independence of the United Kingdom of a supply of food from overseas might be a determining factor of victory. Apart from these grave considerations, it is evident that, after the War, the financial and physical welfare of the country will demand that the productive capacity of the soil should be developed to the fullest extent. Burdened with a huge debt, the nation will be strongly interested in producing as much as possible of its food at home, in order that it may buy as little as possible abroad. Exhausted in man power, it will find in the expansion of the rural population of these islands the best restorative of its vitality and creative energy.

4. We have approached the problem entrusted to us exclusively from the point of view of national security and welfare, and we have endeavoured to formulate a scheme of agricultural policy which may be generally accepted by the nation and adhered to through a long course of years.

EFFECTS OF THE AGRICULTURAL DEPRESSION.

5. At the beginning of the 18th century the United Kingdom relied upon its own production of wheat to feed its population with bread. At the beginning of the 19th century it produced enough wheat to supply far the greater part of its population, but had become dependent upon imports for supplying the remainder. At the beginning of the 20th century it had become dependent upon imported wheat to the extent of four-fifths of its consumption. In 1854 it was still very largely self-supporting in the matter of wheat, but the period between 1854 and 1874 was, on the whole, one of national prosperity, in which the population increased rapidly and the imports of food necessary to support it increased in proportion. The nation lost grip of the conviction which had been present to an earlier generation, that it was a matter of importance that the food which it ate should, as far as possible, be grown within its own borders, and not to an undue proportion be imported from overseas, and gradually the idea prevailed that the State had no more intimate concern in the methods by which a farmer farmed his land than it had in the designs which a jeweller adopted for his jewellery. The years 1870 to 1878 were not years of agricultural depression, and in them a farmer, who kept his land under the plough and grew cereal crops made fair profits. Nevertheless, in 1873 the area of arable land in England and Wales decreased by 222,000 acres, while the area of permanent grass increased in proportion; and the process of conversion continued without interruption, though at a slower rate, up till the year 1879. The reason for this was that, although arable cultivation paid, meat and milk were often more profitable than

corn, and that gross farming, while involving less risks to the farmer from the seasons, brought in equal or greater profits with less trouble and anxiety.*

6. In the years following 1875, there commenced a period of agricultural depression which in varying degrees of acuteness lasted till 1907. Before 1876 our deficiencies in wheat were in the main supplied from Northern Europe, a region affected generally by the same climatic changes as the British Isles. It, therefore, came to pass that in bad seasons wheat was imported into the United Kingdom, broadly speaking, at United Kingdom prices, which in such circumstances were high prices. But after 1876, our deficiencies in wheat were in the main supplied from North America, where the climatic conditions were wholly different, and where bumper crops were often produced in seasons which were bad in Europe. So it happened that after 1879, when a considerable proportion of the seasons were bad, instead of high prices accompanying bad seasons, prices steadily fell. In the 'seventies the average price of wheat had been over 50s. a quarter; by 1885 wheat had fallen to 32s. 10d., and oats to 29s. 7d. a quarter in England and Wales; in 1894, wheat fell to 22s. 10d. a quarter, and in 1895 oats fell to 14s. 6d. It is doubtful whether enough attention has been given to this period of depression or its effects. The loss it entailed in the capital invested in the cultivation of the land by landowners and farmers and of the wages of labourers was prodigious. The Royal Commission on Agriculture appointed in 1893 on the advice of the Rt. Hon. H. H. Asquith, M.P., when Home Secretary, reported that the Chairman of the Inland Revenue had calculated that between the years 1875 and 1894 there had been a decline in the capital value of the agricultural land of Great Britain of £834,000,000, or 50 per cent. The agricultural depression continued for some years after 1894, and this estimate included nothing for the loss of capital of farmers or of the wages of labourers, nor is there any exact method by which a calculation of that loss can be made. What is certain is that the number of farmers who were ruined was large, and that on many farms several farmers were ruined in succession. For instance, the number of bankruptcies among farmers rose to 523 in 1893, 518 in 1894, and 564 in 1895 (after which year the figures fell steadily), and in those three years alone the liabilities of those bankrupt farmers amounted to over £2,000,000. Moreover, the wages of agricultural labourers fell, and in England and Wales it was not for twenty years that the level of the latter half of the 'seventies was again reached. The classes thus cruelly stricken met the crisis with indomitable pluck. The farmers stuck to their farms so long as any capital was left to them; the landowners were generous in their remissions of rent and, generally speaking, helped their tenants by every means in their power; where no one could be found to take the land, the landowners endeavoured to farm it themselves. Holdings were often thrown together as the only means of keeping the land in cultivation. It is a fact that many farms in the country were kept in cultivation and the labourers in employment by the farmers and the landowners, at a steadily recurring annual loss to themselves. Many families would be permanently better off to-day if their fathers had at that time allowed the land to go out of cultivation; but the idea was abhorrent to them, and they sacrificed their capital rather than see this happen and the labourers lose their employment. That agriculture, when the tide turned and prices began once more to become remunerative, was in any degree in a position to take advantage of the change, was due to the sacrifices of the labourers and farmers and landowners of that generation.

7. The effect of the depression on arable cultivation was marked. In 1879 there had been a decrease in England and Wales of 47,000 acres of arable, in 1879 the decrease was 151,000 acres, and in 1890 159,000 acres; the process of change from arable to grass, which had begun during the period of prosperity in the 'seventies, received a disastrous stimulus, and has continued ever since at the average rate of, approximately, 100,000 acres a year. Since the year 1870, something like 4,000,000 acres of land have been converted from arable to grass. The word "converted," however, requires some explanation and expansion. On the one hand, much of the land was put down to grass by farmers and landowners with care and according to the best practice of the time; on the other hand, much of it was never put down to grass by any agricultural process whatever. It was allowed to revert to grass by the processes of nature, and it is not surprising that a large proportion of the land which was thus allowed to tumble down to so-called pasture is of little value as grass. In addition, a considerable amount of land in certain special districts, such as Essex, became actually derelict, that is, no one pretended to farm it at all, and it reverted to the forest conditions of primitive England. The land became clothed with a dense growth of bramble, briar, thorn and gorse, in which forest trees gradually showed themselves, and some of that land is in that condition to-day. It is not wonderful that, in these circumstances, capital and brains fled from agriculture whenever they were mobile and could see an opening of a more profitable kind, or that, as the older generation of farmers died out, the land often passed into the hands of less capable and energetic men, and oftener still into the hands of men who had quite insufficient capital for the acreage of land which they attempted to farm, or that between 1881 and 1901 the number of persons engaged in agriculture in Great Britain decreased from 1,410,454 to 1,136,040, and in Ireland from 1,111,560 to 965,274.† (See Appendix V. to this Report.)

8. The price of wheat in England and Wales, which was 22s. 10d. a quarter in 1894, rose to 30s. 2d. in 1897, and to 34s. in 1898 (the years of the Spanish-American War in which it was attempted to "corner" wheat in the United States of America), but sank again to 25s. 8d. in 1899, and did not reach 30s. again till 1907, since which year it has never sunk below that figure. For the seven years ending with 1913, the average price was 32s. 9d. and there is no doubt that for several years before the War capable and energetic farmers of arable land possessed of sufficient capital were making their industry pay. But, nevertheless, the

* See "English Farming, Past and Present," by R. E. Prothero, p. 371.

† In 1911 it had risen again to 1,175,154 in Great Britain, but further fallen in Ireland to 909,602.

process of conversion of arable land to pasture was interrupted only in the single year 1912, and, in 1913, the year immediately before the War, the diminution of the acreage of arable land in England and Wales was no less than 277,000 acres. It is of great importance that this fact should be noted and its significance understood. Notwithstanding the proved possibility of obtaining good returns from arable land by good farming, the decrease of the arable land of the country was still going on at a disastrous rate.

9. There has been no process of corresponding importance in Scotland. For instance, in England and Wales* in the year 1870, there were 14,849,000 acres of arable; in the year 1915 there were 10,966,000, or a decrease in round figures of 4,000,000 acres of arable; in Ireland in 1870 there were 5,661,610, and in 1915 there were 4,968,903 acres of arable—a decrease of 660,000 acres. In Scotland in 1870 there were 3,486,000 acres of arable, and in 1915 there were 3,290,000, or a decrease of about 200,000 acres of arable. The corresponding movement in Scotland took the form of a longer rotation, in which the temporary lea was left unploughed for several years in succession, of course with the result of a corresponding decrease in the production of cereals. The question will at once be asked, why this process of conversion from arable to grass went on unchecked. The answer is, because all confidence in the stability of agricultural conditions had been destroyed by the cruel experience of the depression, and because agriculture had again become the battleground of politicians. Just as during the prosperous years of the early 'seventies some farmers had taken to grass instead of arable farming because it involved them in less risk from bad seasons, so in the years of reviving prosperity before the present war many farmers persisted in the process of converting arable land into pasture because it involved them in less risk from bad seasons, from bad prices, and from political experiments. No one in 1875 had foreseen or predicted that within 20 years wheat would fall to 22s. 10d. a quarter. Farmers accordingly felt no confidence in any assurances which they received that good prices had come to stay, and, therefore, they were determined to diminish their risks to the utmost, and they were quite justified in doing so. They had no confidence whatever that they might not be faced by another period of depression; they believed that the State would not give them any assistance in such a period, and they and their landlords naturally took such measures as were open to them to ensure themselves in advance against part of its consequences.

10. The effect of the period of depression on the investment of capital in agricultural land must also be noted. In the 'sixties and 'seventies the agricultural landowners had invested capital freely in the industrial equipment of the land—in farm-buildings, farmhouses, cottages, drains, roads and fences—but that capital had often been borrowed for the purpose. The interest received from this investment of capital in all cases diminished, and in many cases disappeared, in the period of agricultural depression. It is not wonderful, therefore, that those professions whose advice it sought in such matters—solicitors, bankers, land agents—thought it their duty to discourage as much as possible the investment of fresh capital in agricultural land. As for the money market, it wrote down English agricultural land as a field of investment to be shunned by all sensible persons. In these circumstances, it shows commendable enterprise on the part of the landowners that they continued to find for permanent improvements in the bad years as much capital as is recorded in the Report of the Royal Commission of 1893 on Agricultural Depression.

NEED FOR A NEW AGRICULTURAL POLICY.

11. British agriculture was in this position when war broke out in August 1914. In the previous year, 1913, the value of the foodstuffs (excluding sugar) which were imported into the United Kingdom from overseas, though capable of production within these islands, was about £200,000,000. One reading of the question put to us in our reference might be: "What proportion of this importation could be produced in the United Kingdom, and by what means?" We have no hesitation in replying that by the adoption of a complete policy by the State, and by consistent persistence in it, a large proportion of this importation could be produced in the United Kingdom, and that a large addition might be made to the production of cereals and potatoes, not only without a diminution of the production of milk and meat, but with an actual accompanying increase of that production. In committing ourselves to this statement, we are not only expressing our own opinion, but we are expressing the opinion of every authority whom we have consulted.

12. We commend to the study of all interested in these questions the parliamentary paper (Cd. 8305), 1916, "The Recent Development of German Agriculture," by Mr. T. H. Middleton, C.B., Assistant Secretary to the Board of Agriculture and Fisheries.† It will be sufficient here to quote the following statements from page 6:—

"On each hundred acres of cultivated land:—

- "1. The British farmer feeds from 45 to 50 persons, the German farmer feeds from 70 to 75 persons.
- "2. The British farmer grows 15 tons of corn, the German farmer grows 33 tons.
- "3. The British farmer grows 11 tons of potatoes, the German farmer grows 55 tons.
- "4. The British farmer produces 4 tons of meat, the German farmer produces 4½ tons.

* The arable land in England alone was 13,739,000 acres in 1870 and 10,273,000 acres in 1915, a reduction of nearly 3,500,000 acres. The similar figures for Wales are 1,120,000 and 823,000, a reduction of 427,000 acres.

† See also "Agriculture after the War," by Mr. A. D. Hall, F.R.S. (John Murray, 1916), particularly Chapter V.

" 5. The British farmer produces 17½ tons of milk, the German farmer produces 28 tons.

" 6. The British farmer produces a negligible quantity of sugar, the German farmer produces 2½ tons."

And his conclusion on page 1: "That the British farmer is much the more favoured by nature, and the view of leading German agriculturists is that their soils and climate are distinctly inferior to those of Britain."

13. We believe that considerable increases in the agricultural output of the United Kingdom can, and will, be obtained by means of education, better varieties of seeds, greater diffusion of good stock, and improved manuring, but results obtained by these means must necessarily take time, and will, in any case, be limited in degree. We are led by the fact that the interests of national security are made the direct object of our enquiry to infer that very substantial increases in food production are essential. We have, therefore, been compelled to consider methods which are calculated to yield an increase greater than is likely to result in the near future from the normal development of agricultural practice. To increase production on the scale which we believe to be necessary, it will be essential to increase largely the area of land devoted to arable cultivation.

14. The impression exists in certain quarters that more milk and meat can be produced on grass than on arable land, but this impression is quite unfounded. The reverse is nearer the truth of the case. As a general proposition it would be correct to assert that more milk and meat can be produced from a given acreage of arable than from the same acreage of grass land, although it is probable that, from an economic standpoint, a considerable area should always be under grass. The agriculture of Denmark is an interesting illustration. In Denmark there is hardly any permanent grass. Almost the whole of the farmed land is under rotation of crops, and yet Denmark carries a specially heavy proportion of live stock to the acre.

15. Different authorities make different estimates of the possible increase of production. We append a memorandum on wheat production by Professor R. H. Biffen, F.R.S., whose brilliant work at the School of Agriculture, Cambridge, is well known. We also print a scheme of agriculture put before us by Mr. C. W. Fielding, as the result of his study of the subject, although recognising that it represents an estimate of a scale of production physically or theoretically possible rather than economically practicable under existing agricultural conditions. It will be noticed that Mr. Fielding's calculations are based not only on a particular scheme of rotation, but also on the avoidance of the great existing waste of fodder by an exact rationing of live stock.

16. We are confident that, as the years pass by and agriculture becomes more intensive in the United Kingdom, an increase of production will be reached which would now appear impossible to many farmers, and that, if the agricultural policy which we recommend is carried out steadily and continuously, a great change will be effected within a generation.

17. Nothing in agriculture can be done by the wave of a magician's wand. Results can only be produced in the United Kingdom as in Germany by a constant and consistent policy. The State must adopt such a policy and formulate it publicly as the future basis of British agriculture, and explain to the nation that it is founded on the highest considerations of the common weal. It must be explained to landowners, farmers, and agricultural labourers alike that the experience of this War has shown that the methods and results of land management and of farming are matters involving the safety of the State, and are not of concern only to the interests of individuals. They must be plainly told that the security and welfare of the State demand that the agricultural land of the country must gradually be made to yield its maximum production both in foodstuffs and in timber.* The history of our country shows that, when once the path of duty is pointed out to them and they understand how grave is the responsibility put upon them, neither landowners, nor farmers, nor agricultural labourers will fail to rise to the emergency.

18. There is much excellent estate management and much high farming in the United Kingdom to-day, but there is also much slack estate management and bad farming, or management and farming which, while profitable to the persons interested, do not take national requirements as to food production into account. That this is so is known to all who have studied the present conditions of British agriculture. The causes of bad estate management and farming are lack of suitable education or of capital (often found in combination) on the part of landowners and farmers, the personal equation of character, the excessive encouragement of game, the acquisition of land for the sake only of its amenities, and the conviction that the State has no interest in the treatment of agricultural land and that it is the concern only of the individuals dependent upon it.

19. The general average of farming must be steadily and continuously raised throughout the United Kingdom; the grass land and the arable land alike must be more intensively cultivated; the improvement of live stock, for which landowners and farmers have done so much even through the years of acute depression, must be progressive; much grass land must be reconverted into arable; the sugar beet industry and the manufacture of potato products can be introduced into British agriculture to its great advantage; estates must be managed with a single eye to maximum production, capital must be attracted to the industrial equipment and improvement of the land and to the operations of intensive farming; agricultural labourers must be provided with an adequate supply of good cottages; small holdings both of owners and of occupiers must be fostered to provide a "ladder" for the agricultural labourer and for the demobilised sailors and soldiers; the organisation of agriculture must be developed; the

* The subject of Forestry has been referred to another Sub-Committee of the Reconstruction Committee.

country must be permeated with a complete system of agricultural education; the status of the department of agriculture must be improved and their powers enlarged and reinforced by association with existing agricultural and administrative bodies, both national and local. All these questions and others of much importance, such as Reclamation, the incidence of Local Taxation, Credit, the working of the Agricultural Holdings Act, &c., &c., will be dealt with in our Report, which will present a scheme of agricultural policy as one whole; but we think it our duty to put in the forefront our conviction that a basis of security and stability of the conditions under which agriculture is to be carried on in the future must be the foundation of the whole structure, and that without it the increase of production, which we predict, cannot be realised.

20. We are of opinion that the conditions of agriculture must be made so stable that out of its profits the agricultural labourer can be assured a fair wage, the cultivator of the soil a fair return for his capital, energy, and brains, and the landowner a fair return for the capital invested in the land, and we believe that this stability can never exist so long as there is a possibility of a recurrence of the prices of the late period of depression.

21. We recommend that the State should fix a minimum wage for the ordinary agricultural labourer in each county, guarantee to the farmer a minimum price for wheat and oats, and take steps, as set forth in later paragraphs, to secure the increase of production which is the object of the guarantee. The cereal crops are the pivot of agriculture, and we do not consider that dairy and stock farming will in any way be prejudiced by our proposals. Moreover, as we have already stated, these very important branches of the agricultural industry can be more, not less, advantageously conducted on arable land than on grass land. In the United Kingdom there is land so adapted to pasture that its retention in grass can be defended on economic grounds. There is also grass land the soil of which is a clay so sticky that in the climate of these islands under the plough "season can only be got upon it" once in three or four years; and there is other land where the climatic conditions render the harvest precarious. It would be useless to plough such land. Of the remaining grass land a large proportion could be ploughed up with advantage to the farmer the landowners and the State. The interests of the State demand that more land should be put under the plough, and any landowner and dairy or stock farmer, who chooses to convert part of his grass land into arable, could at once obtain the benefit of the guarantee and at the same time increase the output of his particular products.

22. We have no authority to consider the fiscal policy of the country as a whole; our reference, though a very important one, is strictly limited, and we shall confine our Report to an answer to it. At the same time we think it right to put on record our opinion that, if the State, for reasons of general policy, were to adopt a tariff on manufactured goods, then a tariff corresponding in degree (with the necessary differentiations between the products of the Empire, of allied, and of other countries) should be imposed on imported foodstuffs such as dairy produce, meat and corn, and that special consideration should be shown to the produce of the more intensive forms of agriculture (of which fruit and hops and flax may be cited as examples), where the capital invested, and the annual expenditure in cultivation, and the proportion of that expenditure on labour, are particularly large.

23. Wheat and oats are the two cereals which are most important from the point of view of human food. Much land in Ireland and Scotland and Wales and the north of England can in normal times be more profitably employed to grow oats than wheat. What the State wants is more land under the plough, and, if the guarantee be given for oats as well as for wheat, without doubt more land will be put under the plough than if the guarantee be given for wheat only. In times of emergency much of the oat land could be made to grow wheat, and we, therefore, recommend that the guarantee should be given in respect of oats as well as wheat. We have after full consideration decided that a guarantee may be dispensed with as regards the barley crop. The operation of the guarantee is intended to encourage in the first place the production of human food and in the second place the extension of the arable area. By securing a remunerative return for the wheat and oat crops it will become possible to bring under the plough all the land which should be ploughed, for there is probably no land in the British Isles which can grow neither wheat nor oats but can grow barley. For this reason we consider that arable farming will be sufficiently safeguarded without a guaranteed price for barley.

AGRICULTURAL WAGES.

24. The last exhaustive enquiry into the rates of agricultural wages was held by the Board of Trade for the year 1907.* At that time the average weekly earnings for all classes of agricultural labourers were estimated to be 18s. 4d. in England, 18s. in Wales and Monmouthshire, 19s. 7d. in Scotland, and 11s. 3d. in Ireland. These amounts include the estimated value of food or board and lodgings, when provided, and of all allowances in kind. The value of a cottage was taken at £4† per annum in England, Wales and Scotland, and in Ireland as £2 12s. 0d. per annum. Board and lodging were computed at £20 16s. per annum in England, £17 in Wales, £20 in Scotland, and £13 in Ireland. The average earnings above stated do not represent the earnings during a given week but an average of the weekly earnings during the whole year.

25. The only statistics available since 1907 are based on the returns obtained annually by the Board of Trade direct from a small number of farmers,‡ and from the chairmen or

* *Earnings and Hours Enquiry*, Vol. V. Agriculture in 1907 (C.L. 5480).

† We consider this estimate to have been too low.

‡ England and Wales, 156 farms; Scotland, 96 farms; and Ireland, 27 farms.

clocks or rural district councils in England and Wales. On the basis of the former returns, which do not come down beyond the end of 1914, the increase in cash wages in England and Wales as between the end of 1907 and the end of 1914 had been 10·4 per cent., and in Ireland 12·9 per cent., the value of allowances in kind apparently remaining constant. In Scotland, where there was a tendency for the allowances in kind to be reduced and for the cash wages to be correspondingly increased, the value of total earnings was raised, during the same period, by 9·5 per cent. The returns from rural district councils in England and Wales, which come down to the beginning of 1916, show that between January, 1908, and January, 1916, the cash rates of wages in over 70 per cent. of the districts covered have increased by amounts between the limits 3s. and 7s.* The commonest rise may be put at 4s. or 5s. from an average cash rate of wages in 1907 of 14s. 9d. in England. In Wales, where the previous cash rate was higher (17s.), the rises have commonly been less (2s. to 3s.). Most of this increase has taken place during the War. Between 1907 and 1913 there had been an increase averaging about a shilling a week. In Ireland, where the average cash rate in 1907 was 10s. 3d. per week, the increase in cash rates since that date has, in 66 per cent. of the districts covered by the returns, been between 3s. and 7s., and in 11 per cent. of the districts the rise has been less than 2s. per week. As in England and Wales, the greater part of the increase has taken place since the War, although for several years previously there had been an upward movement in agricultural wages in Ireland. The above figures indicate that throughout the United Kingdom there had been a slow rise in agricultural wages before the War, and that a rapid rise has taken place during the War.

26. We recommend that Wage Boards should be set up for each administrative county in Great Britain; or, if they thought it desirable, after consulting local opinion, the Government Departments concerned (which in this case should be the Boards of Agriculture) might constitute one Board for two or more administrative counties or for parts of two or more counties to confer together, and, if they think fit, to submit joint reports. On the other hand each Board should be authorised to make different recommendations for different parts of its area, if it thinks it desirable. In some counties the wages generally paid would no doubt be found to be equal to, or more than, the minimum fixed by the Wage Board, and in these cases it would only be necessary to ensure that individual farmers did not continue to pay less than the approved minimum.

27. The Wage Boards should be constituted on the lines of the existing Trade Boards, and should consist of equal numbers of representatives of the agricultural employers and labourers in the area (say ten of each), with a smaller number of members (say six) appointed by the Agricultural Department concerned, by which also the Chairman would, in each case, be nominated. Some of the "appointed members" and the Chairman might be common to a group of Wage Boards, so that they might, in the course of time, gain wide experience of the problems to be solved, and the way in which their solution could most easily be achieved. The remaining appointed members on each Board might be persons familiar with the county, including landowners and agents. The selection of the workers' representatives will, in the agricultural industry, where the labourers are in most parts unorganised, present some difficulty; but the same difficulty has been encountered and overcome by the Board of Trade in setting up some of the existing Trade Boards, and we have been informed that in many, and an increasing number of cases, the workers prefer that the Board of Trade should, after enquiry, nominate their representatives rather than that they should be asked themselves to elect them.

28. The duty of a Wage Board should be to report to the Agricultural Department concerned that a certain weekly wage should be adopted as the minimum for ordinary agricultural labourers throughout the whole of its district, or, as already indicated, differing minima for different parts of its district. The Agricultural Department should have power to adopt the rate suggested and to give it statutory effect and to promulgate it, or to remit its Report to the Wage Board for further consideration. After the rate had been promulgated, and a certain interval (say three months) had elapsed, it should become illegal for any farmer in that area to pay any workman employed by time (unless he were specially exempted on account of age or infirmity) a lower wage than the approved minimum. It would not be possible for Wage Boards in all cases to fix the rates for harvest work or for piece work, because they have often to be varied according to the weather, the soil and the state of the crop. But it follows necessarily from the establishment of a minimum wage that the rates agreed upon between the farmers and labourers must be such as will enable an ordinary labourer doing an ordinary week's work to earn at least the legal minimum wage. An old or infirm man should be paid at the general piece rate but might earn less than the legal minimum owing to his age or infirmity. Arrangements should be made for old infirm and disabled workmen, of whom there are relatively large numbers employed on the land, and for women and boys being paid less than the minimum time rate fixed for ordinary labourers. It has been asserted that the result of the enactment of a minimum weekly wage for agriculture may be that farmers will object to pay the minimum wage during the winter months and during spells of bad weather, and, on this account, will reduce their permanent staffs and rely more than they do at present on securing occasional employees during the busy seasons. We consider that any such result would be exceedingly harmful to agriculture and to the nation generally and that the Agricultural Departments should be instructed to watch carefully the working of the statutory rates and do everything in their power to check any tendency to such a practice.

* Official figures showing the movement of wages since January, 1916, are not available. We believe, however, that the rise in agricultural wages recorded above was not only continued in 1916, but was greater in that year than in the preceding one.

29. The earnings of agricultural labourers in all parts of the United Kingdom, but more notably in certain districts, include payments in kind. Often it would not be to the advantage of the agricultural labourer if the effect of minimum wage legislation were to encourage farmers to convert these payments into cash, and we think that the Wage Boards should be cautious in dealing with such circumstances. The Boards might be required to include in their schemes for fixing a minimum wage a scale by which any allowances in respect of milk, meal, &c., which are made to employees according to local custom, could be valued as part of the total earnings. In this connection it is instructive to observe that the Trade Boards have succeeded in fixing minimum rates in trades in which payment by the employer covers the cost of materials supplied by the worker as well as wages (for example, in tailoring, where the workers provide needles and thread, and in chain-making, where homeworkers provide tools and fuel), and we are of opinion that the difficulty of assessing the value of allowances in kind in the agricultural industry will not be beyond the capacity of the Agricultural Wage Boards.

30. We are of opinion that the system by which an agricultural labourer receives part of his emoluments in the shape of a low rented cottage is a bad one, and we hope that the establishment of a minimum wage will gradually lead to its abandonment. We look forward to the time when every agricultural labourer who rents a cottage will pay the full economic rent and rates and receive such wages in cash as will enable him to do so. But we are aware that custom dies hard in the country districts, and that for some time to come large numbers of farm servants will continue to live in cottages let to them at rents which are uneconomic and in some cases merely nominal. We consider, therefore, that in fixing minimum rates of wages, the Wage Boards should be required to calculate for a full economic rent for a good cottage being paid by the workmen, and should fix the maximum amount which a farmer would be entitled to deduct from agricultural wages for such rent. In the event of a workman being housed in an inferior cottage, he would be in a position to claim a reduction in rent, and thus be compensated for his inferior accommodation by receiving a larger cash wage. The system of "tied" cottages has met with much criticism, but we fail to see how farming could be carried on on many farms, especially those remote from villages, if the cottages specially erected on or near the holding were not reserved for occupation by the men employed on the farm.

31. We have anxiously considered whether we could not advise that in appointing the Wage Boards the Agricultural Departments should inform them that no recommendation would be accepted for the establishment in any county of a minimum wage below a certain amount. The effect of this action would be to proclaim to the demobilised sailors and soldiers and to all agricultural labourers that under no circumstances would they be asked to accept a lower weekly wage in agriculture than the figure named. We have, however, reluctantly decided that at the present time we are unable to recommend a specific figure, in view of the extraordinary divergence of conditions in different parts of Great Britain, and of the fact that agricultural wages are still rising, and of our necessary ignorance of the comparative values which will exist on the declaration of peace. We shall, however, continue to study the question, and shall not hesitate to make further recommendations on the subject in a later part of our Report if the governing factors of the situation become sufficiently plain to enable us to do so.

32. In view of the fact that our Irish colleagues have only been recently appointed, and that we have not yet had an opportunity of considering the very special circumstances of Ireland, we wish it to be understood that we make these recommendations only in respect of Great Britain.

PRICE OF WHEAT AND OATS.

33. We have thought it essential, in considering the minimum price which should be guaranteed for wheat, to give careful consideration not merely to the cost of wheat production but also to the profits derivable from other systems of cultivation. If, as we anticipate, the cost of labour, which is relatively much higher on arable farms than on grass farms, is considerably greater after the War than it was in 1914, and other outgoings are also increased as appears now to be probable, the lowest figure at which, in our opinion, a guaranteed minimum price would be likely to give farmers a reasonable security against loss in growing wheat is 42s. a quarter. Similar considerations have led us to the conclusion that 23s. a quarter should be guaranteed as a minimum price for oats. These figures will certainly be regarded by many members of the agricultural community as too low, but we consider them sufficient to effect the sole object at which we have aimed, namely a sense of security for the cultivator of arable land. They certainly would not afford a justification for any attempt in times of peace to fix maximum prices for wheat or oats nor for requisitions of corn grown in the United Kingdom at any figure fixed at less than the market price. Our recommendations, however, are necessarily made with no certain knowledge of what will be the standard of values after the War, and when that standard is known, it may be necessary for His Majesty's Government to revise them in the light of ascertained facts. We suggest no period for the duration of this guarantee because, in our opinion, it can never be compatible with national security, so long as wars are possible, to deprive agriculture of that stability of cereal prices on which we have insisted.

34. It is, in our opinion, very important that the process of conversion of grass to arable should be commenced as soon as labour is available and other conditions permit, and we think that it would be short-sighted policy on the part of the State to omit the offer of whatever inducement may be necessary to overcome the inevitable reluctance of farmers to commence the operation. In view of the uncertainty that must prevail as to the movement of values in the period immediately after the War, and, again, of our ignorance of the effects

of the measures now about to be taken to increase production, we hesitate to suggest figures for the prices which should be guaranteed for the first two years after the conclusion of peace, but we consider that they should be at least comparable to the prices ruling during the War itself. We do not believe that this initiatory increase of the guarantee will involve any charge upon the Exchequer, as prices will, in our opinion, continue to rule high for some years after the War, but many farmers do not share this belief, and may otherwise feel nervous of incurring the initial expense of breaking up land. The impetus which this temporary additional guarantee would give to the policy of the plough will be worth the risk of a temporary additional charge if our forecast of prices should prove to be erroneous.

35. The method by which payments under the suggested guarantee should be made remains to be considered. We endorse the recommendation of the Departmental Committee* presided over by Lord Milner in 1916, that the farmer should receive the difference between the guaranteed price of a quarter of wheat (480 lbs.†) or of a quarter of oats (312 lbs.†) and the "Gazette" average price for the year in which the crop is harvested. This system has the advantage that it leaves the grower free to dispose of his crop when he wishes in the open market, and that the State action is guaranteeing a minimum price to the farmer does not raise the cost of the produce to the consumer. At the same time the farmer is able to benefit by improvements in the quality of his produce, and by taking advantage of any fluctuations in the market price. For example, if the "Gazette" average price was 38s. and the guaranteed minimum 42s., every wheat grower would be entitled to claim 4s. for each quarter of wheat he threshed, regardless of whether he had realised 40s. or 35s. for his produce.

36. The determination of the quantity of wheat and oats on which each farmer will be entitled to claim, in the event of the market price falling below the amount of the guarantee, will involve some difficulty. As the object of the State will be to encourage increased production, we regard it as essential that payment should be based on (a) the number of quarters actually harvested, so far as this can be estimated, not on the number of acres sown, and (b) the whole of the farmer's production regardless of the amount consumed on the farm. Most of the wheat and oats grown in England, Wales and Ireland is threshed by machines which travel from farm to farm; but in Scotland, and to a certain extent in the North of England, the case is different, as it is a common practice for both wheat and oats to be threshed by mills belonging to the farm. Another complication in the case of oats is that the crop, unlike wheat, which is nearly all sold off the farm, is disposed of in various ways. Some is marketed, some is fed to stock on the farm, some is milled for consumption at the farmhouse and for payment in kind to farm servants.

37. On the one hand it is important that all unnecessary complications and the necessarily costly intervention of officials should be as much as possible avoided, on the other it is essential that the Public Exchequer should be protected from fraud. We recommend that every farmer who desires to claim the benefit of the guarantee should be required either:—

- (a) to use a threshing machine which has been duly licensed; for hire, the firm to which the machine belongs being made responsible for providing the farmer with a true certificate of the number of quarters of corn of the required weight threshed; or
- (b) If he does not propose to use a hired machine, to give notice to that effect to the Board or Department of Agriculture some time before harvest in order that the yield of his standing crop may be estimated by a government valuer whose fee and expenses he should repay to the Board or Department of Agriculture. If he considered that his crop had been under-estimated, he could still have resort to the test of a public threshing machine.

Any farmer desiring to claim the benefit of the guarantee should send in his certificates of threshing, or the estimate of the Government valuer, to the Board or Department of Agriculture, by which they should be checked and the sum found due be paid to the farmer.

38. An alternative plan which, in the long run, might easily be the cheapest, might be adopted in the place of that described in para. 37 (b). The Board or Department of Agriculture might, under carefully devised regulations, accept the certificate of the farmer as to the amount of wheat or oats which he had threshed on any given day when he had obtained the counter signature of some official or person of repute resident in the parish and authorised for that purpose by the Board or Department of Agriculture. If the officials of the Board or Department of Agriculture checked the threshing returns sent in by the farmers with their crop and returns, and if they had the right of access, as they should have, at any time to the farm and premises of any farmer claiming the benefit of the guarantee, it is probable that they would soon become aware, from information acquired in the ordinary discharge of their duties, of the existence of fraud, the penalty for conviction for which should be very severe.

39. The calculation of the possible cost of our recommendation is easily made. It would cost £50,000 a year for every million quarters of wheat grown for every shilling by which the cost average market price of wheat fell below 42s., and £50,000 a year for every million quarters

* Cd. 8048, para. 7.

† The "Gazette" average price, under Section 8 of the Corn Return Act, 1882, is for a quarter of 8 imperial bushels at the rate of 40 imperial pounds for every bushel of wheat, and 39 imperial pounds for every bushel of oats.

‡ The Board or Department of Agriculture should issue licences, free of charge, to reliable firms letting out threshing machines for hire, authorising them to issue certificates for that purpose, and should supply them with the necessary forms, instructions, &c. In the event of any misstatement the licence should be liable to forfeiture.

§ The annual returns to the Board and Department of Agriculture of crop and stock statistics, which are now voluntary, should be made compulsory.

of oats grown for every shilling by which the average market price of oats fell below 23s. At the present moment about seven million quarters of wheat are grown in the United Kingdom and thirty-five million quarters consumed, and the price of wheat is about 75s. per 480 lbs.; about twenty million quarters of oats are grown and twenty-seven million quarters consumed, and the price of oats is about 50s. per 312 lbs.

40. We have not dealt with our subject with the purpose of increasing the farmer's profits; we have dealt with it solely with the object of making it possible for him to respond to the national need and plough up more land. He cannot so respond unless he is assured in advance against the ruin which would certainly overtake him if he ploughed up his land and prices fell once again to the 1894-1895 level. It may be that for several years after the present war, prices will rule considerably higher than the guarantee we have named, and that those farmers who grow wheat and oats will make a handsome profit. But the uncertain prospect of such profit will not induce the farmer to plough up his existing grass, nor deter him from laying down more arable to grass.

41. We are convinced that the process of conversion of arable to grass will recommence immediately after the War notwithstanding high prices, unless the farmer is assured against a recurrence of the prices of 1894-5. It may be improbable that those prices will recur, but after his previous experience mere probabilities will have no weight with the farmer. He knows that no one foresees the previous fall of price, that if he is caught by such a fall with his land under the plough he will probably become bankrupt, and that if he can become a grazier, or dairy farmer on grass land, whatever else happens to him, he will escape ruin from any sudden fall in the price of cereals. He will, therefore, almost every time plump for the least risk. This is the explanation of the persistent diminution of the area of arable land. For its own safety and welfare the State wants more plough land, but it cannot ask the farmer to do that which might ruin him unless it assures him in advance against the operation of the same cause that ruined his predecessor. That is why the guarantee is so essential to agricultural stability. When once that has been given, the whole atmosphere in which the farmer works will be changed; all excuse for lack of enterprise will have been removed; no valid excuse can be made for not paying the agricultural labourer a higher wage than that too often prevalent before the War. It is quite true that in the old days of high wheat prices the wages of agricultural labourers were often miserably low, and that in some districts they were still too low before the War. But it is also true that those wages were, on the average, higher in 1876 than they were again till 1899, and that they would have risen much sooner than they did if it had not been for the period of depression; also that, if the price of wheat fell again to the 1894 level, it would be quite impossible to maintain a decent wage, or even employment, for the ploughman. On the other hand, it is quite impossible for the farmer ever again to make fair profits year after year and continue to pay bad wages. The twentieth century is not the nineteenth, and public opinion knows too much to tolerate it. Nor would the agricultural labourer himself for one moment again submit to such treatment. After this War the men would not go back to work on the land for such wages as existed in some places before the War. They would go elsewhere, to the new lands of the Dominions, or to the towns. The guarantee of a living wage is essential as an assurance to these men that they are to have a fair share of the profits of agriculture, to attract them back to the land, and to avert their exodus. The plough policy which the nation needs for its safety cannot fructify without the co-operation of both farmers and agricultural labourers, and both classes are justified in asking in advance for such security in the conditions of life as it is in the power of the State to give.

42. We do not think it necessary to set forth at length the theoretical arguments for or against a guarantee as compared with a duty as a means of encouraging arable cultivation within the United Kingdom. The reasons which induce us to recommend a guarantee at the present moment are purely practical. For the reasons we have given, we think that farmers may fairly be urged, and, if need be, compelled, to grow wheat and oats if they are assured of a minimum price of 42s. and 23s. a quarter respectively. But if assistance to the arable farmer were to be given to him by the operation of a duty, that duty would need to be as high as 17s. a quarter if it had to maintain the price of wheat at 42s. per quarter whenever the world price fell to 25s. as it did as recently as 1894. Experience has shown a sliding scale of duty to work injuriously to national interests. Therefore, whatever the market price of wheat to-day, the duty on wheat would have to be a fixed one of 17s. a quarter, if the farmer is to be secured by that means against a recurrence of that fall of price of which he lives in so much dread. In our opinion the world price of wheat is likely, for some years after the War, to stand at over 42s. a quarter. The effect of a standing duty as high as 17s. might be to raise the price of all the wheat consumed in the United Kingdom to a scale which could not be defended, and the resentment to which it would give rise would end in the repeal of the duty and the destruction of that stability of conditions which is essential to the increase of the home production of wheat. But if stability is secured by means of a guarantee, no difficulty of the kind would follow from the continuance of high prices after the War. Whatever the world price of wheat was that would be what the citizen, in his capacity of consumer, would have to pay, whether it was above or below 42s. a quarter. So long as the world price did not fall below 42s. a quarter, the citizen, in his capacity as taxpayer, would have to pay nothing to the British or Irish farmer in fulfilment of his guarantee. But it is possible that in the course of a few years the world price of wheat may fall below 42s. a quarter, and in that event the citizen, as taxpayer, would have to pay to the farmers the difference between the world price, whatever it was, and 42s. a quarter for the wheat grown in the United Kingdom, while, as consumer, he would still be getting his bread at the cheapest possible rate.

43. The objection has been made to us that some seven million quarters of wheat were being grown in the United Kingdom before the War, when wheat was, on the average of the seven years ending 1913, 32s. 9d. a quarter; that presumably the farmers who grew that wheat were growing it at a profit; and that it is an unreasonable thing to ask the nation to add to these farmers' profits by guaranteeing them 42s., instead of 32s. 9d. a quarter. This objection ignores the fact that the cost of production will be higher after the War and that there is no presumption that wheat growing is generally profitable at 32s. 9d. a quarter to be found in the fact that in 1913 some seven million quarters were grown and sold at about that price. A larger, not smaller, number of quarters of wheat were grown in 1894 when the average market price was 22s. 10d. a quarter, and no one pretends that wheat can by any possibility be grown with a profit at such a figure. Then why was a certain amount of wheat grown at prices which did not pay? The answer is to be found in the extreme tenacity of agricultural custom, in the great inconvenience which many farmers experience if they are altogether deprived of wheat straw for bedding and for thatching, and in some farmers' constant hope of better prices.

44. But, although the fact that a farmer grew wheat in 1913 is no proof that it paid him to do so, it is certainly true that the best farmers were then making a profit by growing it on suitable land. The best farmers will always make the best profits in all circumstances, and it would scarcely be wise of the State to exclude from the advantage of a guarantee only these farmers who had shown the most enterprise and skill without a guarantee. It would not be prudent policy to offer encouragement and security only to those who had grown no wheat at the time when the nation most needed it. Either the nation does not require more wheat to be grown at home for its own security and welfare, or it does. If it does not, then our reference is misleading, our opinions are erroneous, and this Report is waste paper. If it does, it is not a valid objection to a guarantee that the best farmers in the country may some day make greater profits than they would otherwise have done. They are just the men who will make the best use of the security given under the guarantee by putting more land under the plough, and by making every acre of land under the plough yield more and more wheat. So long as they pay fair wages their prosperity is to the advantage of the nation. With the increased cost of production after the War, the chance of deriving an excessive profit from the sale of wheat at 42s. a quarter seems to be remote, but if there should be these exceptional cases the Chancellor of the Exchequer may be trusted to find a method for dealing with them.

45. A more serious difficulty consists in the fact that, until the reasons which justify it are understood, the policy which we recommend will be thoroughly unpopular with many landowners and farmers. They have turned their farms down to grass, they do not grow corn and do not wish to do so, and they do not ask for a guarantee; they will not like the idea of a minimum standard wage, and all they ask is to be let alone. Their point of view is quite intelligible. They were, according to their opinion, completely neglected by the State in the period of their difficulties; they overcame those difficulties by their own skill; they found a new and less risky method of farming; and now they are asked to commence arable farming afresh! If, however, they once understand that the policy in which they are asked to join is necessary for the safety and welfare of the nation, the State can, we believe, confidently rely upon their co-operation. But in the case of many of the landowners the provision of fresh capital for cottages, buildings and drainage will be a matter of real difficulty. We recommend that whatever assistance is given by the State to Public Utility Societies to build cottages should also be given to landowners associated into County Public Utility Societies for the purpose of the drainage and industrial equipment of agricultural land.

EFFECT OF GUARANTEED PRICES ON RENTS.

46. We now pass to the consideration of an important question,—Should a Land Court be established to adjust rents? It has been represented to us that, if the result of a guarantee should be to make farming more profitable than it otherwise would be, the increment of profit will, by a fixed law of political economy, find its way into the pockets of the landowners by way of increased rent. The result of a guarantee will be different in different cases; in some it would probably increase profits but by no means in all. What is certain is that the cost of production will be higher for the farmer than it was before the War; that experience shows that the law of political economy, to which reference has been made, works slowly; that many collateral influences disturb its working; and that no absolute forecast can be made of the exact effect of a given change of conditions on the standard of rent. Before the War, it was the general opinion of those who were familiar with the conditions of farming in England that a large proportion of English farms were under-rented. Evidence has been laid before us that this is not the case in Wales, and that in Scotland and in parts of the North of England, where the custom still largely prevails of putting vacant farms up to tender, there is probably no corresponding general discrepancy between the actual and the economic rent.

47. It is necessary to bear in mind the fact that in Great Britain the capital required for the cultivation of the land is generally found by two separate parties. The farmer finds the capital which forms the basis of the wage-fund and provides the live and dead stock and other essentials of husbandry. The landowner finds the capital which provides the land and its industrial equipment in the shape of farmhouses, farm-buildings, cottages, the drainage, or materials for the drainage, of the land, the principal fences, roads, and water supply. Moreover, in many cases the landowner has borne the cost of laying down the land to that very grass which henceforth the State may wish for reasons of public policy, to see reconverted into arable. The farmer will get the benefit of any fertility which may have been accumulated

in this ploughed-up grassland in the returns from his cereal crops. It will be fair that the landowner should get some return in the form of some increase of rent for this value which has been created by his expenditure. Again the rent which the landowner receives rarely represents an interest of as much as five per cent. on the capital invested in the industrial equipment of the land and often includes no interest whatever on the capital value of the land itself. In the majority of cases the landowner receives a return in the form of rent on the capital represented by the value of the land and its industrial equipment taken together, which a manufacturer would consider an altogether uncommercial rate of interest. That this is so is not to the advantage of agriculture, or of the State, because it acts as a constant deterrent to the investment of capital in agriculture. The following paragraphs are extracted from page 28 of the Report of the Royal Commission on Agricultural Depression of 1893:—

"It is clear from the evidence which these estate accounts and other sources of information afford, that a considerable portion of the rental received by owners at the present time is merely a return for capital expended in equipping and furnishing the estate, and not rent for the land itself."

"Mr. J. S. Mill draws a clear distinction between rent which is payment for the original powers of the land and that part of rent which is a consideration for the use of the buildings, fences, &c. There can be little doubt that, measured by the standard which is laid down in the following passages, over a very considerable part of this country true rent has entirely vanished, since the owners are not receiving the ordinary interest upon the sum which it would cost to erect buildings, fences, &c., as good as those now existing:—

"Under the name of rent, many payments are commonly included, which are not a remuneration for the original powers of the land itself, but for capital expended on it. The additional rent which land yields in consequence of this outlay of capital should, in the opinion of some writers, be regarded as profit, not rent. The annual payment by a tenant almost always includes a consideration for the use of the buildings on a farm . . . not to speak of fences and the like. The landlord will ask, and the tenant will give for these whatever is sufficient to yield the ordinary profit, or rather the ordinary interest on the value, . . . i.e., not on what it cost to erect them, but on what it would cost to erect others as good; the tenant being bound in addition to leave them in as good repair, as he found them. . . . These buildings are as distinct a thing from the farm as the stock or the timber on it, . . . and what is paid for them can no more be called rent of land than a payment for cattle would be if it were the custom that the landlord should stock the farm for the tenant.""

In our opinion the present state of the case is still exactly the same as that thus lucidly set forth.

48. The same Royal Commission carefully examined what the effect on agriculture of the establishment of a Land Court would be likely to be. The following paragraphs are extracted from pages 106, 107 and 109 of their Report:—

"But there is another and far more important consideration which convinces us that any legislation in the direction of fixity of tenure and judicial rents, so far from raising the standard of cultivation, would be fraught with very serious dangers to agriculture, and to all classes engaged in the cultivation of the soil. We cannot doubt that one of the first results of such legislation would be that the greater part, if not the whole of the permanent improvements on the great majority of farms would be left to be carried out exclusively by the tenants. We have already referred to the very large capital outlay on these improvements by landlords during the depression. It is incredible that the tenants would have been willing to carry out works of this magnitude at their own cost, or that if they had been willing they would have possessed the requisite capital to enable them to do so; while, if they had borrowed for the purpose, they would have fallen into the hand of mortgagees, who would have been less disposed to reduce the rate of interest than their landlords have been to reduce their rents. The greater part of the work would, we are convinced, have been left undone to the very serious detriment of the agriculture of the country."

"It should be noted here that in our opinion the three F's are inseparable, and that the adoption of either one of them would necessarily involve the acceptance of the other two. Some few of the witnesses who have appeared before us, and who have advocated drastic changes in the land tenure of the country, recognise the very serious mischief which would result from their complete adoption, and have apparently come to the conclusion that they might be diminished if a part only of that policy, consisting of one or two of the F's, were adopted. But, in our opinion, any such intermediate policy is impossible, and, if possible, would be indefensible. It would be no advantage to a tenant to have his rent fixed by any tribunal if his tenancy could be determined in the event of his landlord being dissatisfied with the finding of the tribunal. Nor would fixity of tenure be of any advantage to a tenant if the landlord were allowed to raise his rent at his own discretion. Nor, when a tenant's rent had been determined by the Court, and he had been given fixity of tenure, and he had in this way become a part owner in the land, is it easy to see on what grounds he could be debarred from exercising the right of every owner to dispose of his property by sale or bequest, especially if he had been compelled to expend his capital on the permanent improvement of his farm."

* Mill, "Political Economy," Book II, ch. vi, s. 5.

† *Id.* Fair rent, Fixity of tenure, and Free sale.

49. We are quite aware, as were the members of the Royal Commission, that there are cases of real hardship in the treatment of tenant farmers by their landlords, such as all fair-minded men would unite to condemn, and it is also true that farmers developing special lines of business sometimes meet with scanty encouragement from their landlord; but both these classes of cases are exceptional, and we see no reason to differ from the conclusions of the Royal Commission or to consider them otherwise than sound and equally applicable now as then. As regards ordinary farming and the majority of tenants, there is evidence to show that the tenant farmer possesses a much greater security of tenure than would be warranted by the fact that in England, at any rate, by his own choice his tenancy is usually an annual one. We do not, therefore, consider that any general measure conferring "security of tenure" on existing occupiers is called for in order to meet these exceptional cases. A large proportion of the land of England is let for one reason or another at rents below what may be termed the economic level. To secure the present occupiers in their tenure of these farms at the current rents would be to make them a present of that part of the real value of the land for which the owner is not demanding a return in the shape of rent. We regret to say that experience does not lead us to expect that the average occupier would respond to such a gift by any intensification of his farming or by increased production. The response would come from the succeeding occupier, to whom would eventually be sold this interest, which the original occupier had not in any way earned. Low rents have too often resulted in slack farming, and to secure the farmer in these rents would in such cases only leave him content with his unprogressive methods.

50. What will be required above all other things for the benefit of agriculture when peace is restored is an uninterrupted flow of capital to the land. It will be only too difficult for the landowners to find that capital owing to the inevitable pressure of taxation and we are convinced that the one certain effect of the establishment of a Land Court would be to dry up the spring of capital at its source. No prudent landowner would sell out stock, from which a return of interest is assured, and re-invest his capital in the industrial equipment of the land, if he ran the risk of losing the whole or part of the interest which he was expecting to receive from it by the decision of a Land Court. Moreover, we are convinced that it would not be to the interest of the State to confer upon tenant farmers a proprietary interest in the land they farm. If the policy which we recommend is adopted, the State will point out to the agricultural landowners the great service which they can render to the State in the reconstruction of agriculture, and the reasons of national security and welfare for which this service is required, and we are confident that the landowners will recognise their responsibility and respond to the appeal. At the present moment the responsibilities of ownership are by the law of the land vested only in them. In dealing with them the State will know exactly where it is and whom to hold responsible. It can appeal to their patriotism and, if the necessity should arise in individual cases, it can put further pressure upon them. But if by the establishment of a Land Court a system of dual ownership in any degree were created, the State would have to deal in respect of the responsibilities of ownership with all the tenant farmers as well as with all the agricultural landowners. In any case the State will have to make an appeal to the patriotism of the tenant farmers in the sphere of cultivation and production, analogous to that which it will have to make to the landowners in the sphere of ownership. As we have stated earlier in our Report, it is unfortunately the fact that many farms were already, before the War, sadly under-cultivated. Landowners find it difficult and invidious to give notice to quit to an otherwise estimable neighbour because he is a bad farmer. But if the production of the land is to be raised to its maximum these bad farmers must, in the national interest, either mend their ways or give place to men who will farm the land as it should be farmed. The State must do what it can to encourage the good and eliminate the bad farmer, and, wherever the necessity is manifest, put pressure upon a landowner to adopt the same policy. Again, it has been the experience of the Board of Agriculture and of the County Councils in working the Small Holdings Acts that it is difficult sometimes to induce the farmer willingly to give up land for the creation of small holdings, even when the landowner is friendly to the project. That this is so may be regrettable, but it is also quite natural and intelligible. But if the farmer were to acquire a proprietary right in his farm in addition to his interest as a tenant, the difficulty of putting pressure upon the bad farmer and of working the Small Holdings Acts would be much increased.

51. For these reasons we are of opinion that the State would be creating a whole field of fresh difficulty and complication for itself if it inaugurated its new agricultural policy by conferring on the farmers a legal vested interest as part proprietors of their farms. Irish experience of the working of a Land Court fixing fair rents shows that it creates an atmosphere, a general feeling among the farming community, adverse to enterprise and good farming, because success might justify a higher level of rents. Men have deliberately farmed badly and let their farms down in the years of revision of rents in order to make a case for a reduction of rent by the Court. We propose in another part of our Report to consider whether or not any amendment is required in the Agricultural Holdings Act to meet the exceptional cases to which we have referred; but we do not advise the establishment of a Land Court. We propose to deal with the general case in a different way.

METHOD OF SECURING INCREASED PRODUCTION.

52. The Government has no fairy touch which will enable it to produce instantaneous results. It must work through, and by means of, the men who are now holding and cultivating the land. If it was so foolish as to try and do their work as well as its own, the only result would be to bring agricultural production to a standstill. There is no body of men in existence

except the farmers of the United Kingdom and those who have qualified, or who are qualifying, to become farmers, who are capable of farming the land. Technical knowledge based on experience is just as essential for successful farming as education and brains and capital. It is when all these qualifications exist in combination that the best farming is found. Therefore the State must give time to all concerned to adjust themselves to the new conditions dictated by considerations of national safety. It should formulate its policy and explain the reasons for it in simple definite terms; it should make clear the part it proposes to play itself, that the policy explained will be steadily and consistently followed, and that, while the policy is being worked out, the agricultural industry will not be subjected to any harassing legislation. The State must, in short, take every means in its power to give confidence and a sense of stability to landowners farmers and agricultural labourers. It must then tell those classes exactly what is expected of them, and appeal to their highest instincts of patriotism to put personal predilections aside, and to unite to carry out a policy on the success of which the safety of their country may some day depend. The standard set before their eyes should be the highest—not to be content till the whole soil of the United Kingdom is producing the greatest possible return of foodstuffs or of timber. It must be clearly understood that henceforth had farming is a danger to the State, and that the waste of good land on game or games is inconsistent with patriotism. There will be plenty of room for game or golf in moderation, but too much game, or golf links carved out of fat land, make an incursion on the production of foodstuffs which can no longer be defended. Rabbits must be recognised to be what they are, a curse to both agriculture and forestry. There are localities where the rabbit defies extermination, but the effort to deal with the pest should never be intermitted. The theory in fact should be that rabbits are only to be tolerated in completely enclosed spaces, where the ground is of such a nature that it can more advantageously be devoted to the production of rabbits than of any other foodstuffs.

53. When all this has been explained to them, landowners and farmers should be informed that they will be given reasonable opportunity to adjust themselves to the new conditions. The agricultural labourers being secured their share of profits by the institution of a minimum wage, the landowners and the farmers may be left to adjust their shares between them and also to come to an agreement (which is essential) about the relaxation of covenants against the ploughing of grass land or of any others which tend to discourage good farming. We are satisfied that they will have no difficulty in doing so much more satisfactorily than the State could for them.

54. We entertain no doubt that landowners farmers and agricultural labourers alike will realise the greatness of the trust reposed in them, that they will rejoice at the recognition of the fundamental importance of agriculture to the national life, and that they will do all, and more than all, that their country demands of them. But we recognise that, when once the State has embarked on such a policy as we recommend, for the sake of the nation's safety, it can run no avoidable risk of its failure. Neither the idiosyncrasies, nor the incapacity, nor the lack of patriotism of individuals can be allowed to interpose even a partial barrier to the success of a national policy. We recommend that the Boards and Department of Agriculture should be instructed to carry out a general survey of the conditions of agriculture throughout the United Kingdom, and that the utmost care should be exercised in selecting those who are to undertake the work. Further, in Great Britain* we recommend that a panel of Assessors† should be set up for groups of counties in England and Wales;‡ one third of each panel to be appointed by the Board of Agriculture, one-third by the Chairmen of the County Councils in the area, and one-third by the President of the Surveyors' Institution. In Scotland, one-third of each panel should be appointed by the Board of Agriculture, one-third by the Chairmen of the County Councils in the area, and one-third by the Sheriffs of each county. In each case the members should meet and confer before making their selections, and the panels should be composed of men thoroughly skilled in estate management or in practical farming. The grouping of counties for this purpose might follow the existing provincial divisions for the agricultural education and live-stock schemes. There should also be constituted for England Wales and Scotland separately a Review Committee† consisting in each case of three persons, the greatest authorities on agriculture and estate management obtainable, who should be empowered to take legal advice if necessary. The members of the Review Committees for England and Wales should be selected by the Lord Chief Justice and for Scotland by the Lord Justice General.

55. The procedure would be as follows:—If, in the course of the survey, it appeared to the Board of Agriculture that land (other than a public or private garden or park) was, from any cause, not being fully utilised for the production of foodstuffs or timber, notice should be served upon the owner of the land by the Board of Agriculture to the effect that if, after an interval of three years from the date of the notice, the position was still unsatisfactory, the case would be referred to Assessors. If, at the end of these three years, evidence was not forthcoming of substantial improvement, the case should be referred to the panel of Assessors for the area, who should select three of their members not resident in that county to examine and report upon it. They should be required to inspect the farm or estate personally and to hear everything which the owner, or agent, or tenant, or any witness whose evidence

* We shall make distinct recommendations later to deal with the case of Ireland.

† The Assessors and Members of the Review Committee should, of course, be paid whenever their services are utilised.

‡ The Board of Agriculture and Fisheries in constituting the panels of assessors for Wales should act in consultation with the Agricultural Council for Wales.

they thought material to the case, had to say. But no counsel or solicitor should be permitted to appear professionally before them, nor should any costs be allowed. On receiving the report of the Assessors the Board of Agriculture should refer it to the Review Committee, whose function it would be either to recommend the adoption of the report or to order a supplementary or, if necessary, a new report. The Committee should not re-hear the case or act in any way as a Court of Appeal but merely consider and review the report. If the report, as passed by the Committee, was adverse to the general management of the estate and showed that good farming was being discouraged or impeded or had farming treated with too much leniency or that, for any other reason, the estate was not making the contribution which it could reasonably be expected to make to the production of foodstuffs, then certain consequences should follow. What those consequences should be we proceed to explain.

56. We recommend that the Board of Agriculture* should be empowered temporarily to supersede the landowner in the management of the estate for all purposes essential to agriculture. It should put the estate, or such portion of the estate as it might deem necessary, (except the mansion and the garden and park, if any, attached to the mansion) into the hands of a manager whose salary should be fixed by the Board of Agriculture and made a charge upon the estate. He should have the same powers in respect of the management of the agricultural land included in the estate as the owner had, and he should manage the estate as trustee for the owner. He should be a man of proved experience and capacity in the management of an agricultural estate, and he should render a yearly report and statement of accounts to the owner and to the Board of Agriculture. The balance of income, if any, derived from the estate after the payment of the necessary outgoings should be remitted half-yearly to the owner by the Board of Agriculture. When once the management of an estate had been so taken over by the Board of Agriculture, it should retain that management for five years, unless within that period there had been a successor in title to the original owner, in which case the estate should be handed back to his management at the end of the current farming year, if he so desires it and is prepared to accept such liabilities as may have been incurred in connection with it. If there had been no change of ownership within that period, the Board of Agriculture should be empowered to hand back the estate to the original owner at its termination if it was satisfied that the future management of the estate would be satisfactory. If it was not so satisfied, then it would continue to manage the estate for another quinquennial period, and so on from five years to five years, until there had been a change of ownership. The owner should, throughout, be undisturbed in the exercise of sporting rights over the estate, subject to the power of the manager of the estate to prevent those sporting rights being exercised in a manner detrimental to agriculture or forestry. If the owner of such an estate is unable or unwilling to develop it for the purpose of agricultural production, the Board of Agriculture should have the power to borrow from the Land Commissioners and to develop it for that purpose by the expenditure of capital, the charges for which (interest and sinking fund) should have priority over all existing charges on the land charged according to the principle embodied in the Improvement of Land Act, 1864. During the period of supercession the power of the owner to make any fresh charges on the estate, or part of the estate, should be suspended, and the existing charges on it, whether by way of mortgage or of settlement, should be paid out of the proceeds of the land by the Board of Agriculture.

57. For the guidance of all concerned it should be laid down that it shall be the duty of every landowner so to manage his estate, and that it shall be an implied condition in every lease or tenancy agreement, that the tenant of agricultural land shall cultivate the same according to the approved practice of the best agriculture, with a view to the economic production in the interests of the community of the greatest amount of food-stuffs (for man or beast), of which the land, having regard to its quality and position, is reasonably capable.

58. Where land is being badly farmed by a tenant who holds a lease, and who persists in farming badly after being duly warned of the ultimate consequences, the landowner may bring the case before the Board of Agriculture, at the same time giving formal notice of the action to the tenant. The Board should thereupon ask the local panel to appoint assessors resident in another county than that in which the farm is situated to report upon the farm, and in due course should refer their report to the Review Committee. If, as the result of the unfavourable nature of the report in respect of the farming of the land, the Review Committee so recommended, then the Board of Agriculture should be empowered to call upon the landowner to give twelve months' notice to the tenant to quit, and that notice should have effect as if the tenant had held no lease but was a tenant holding on a yearly agreement.

59. In the later part of our Report we shall deal with agricultural organisation in all its aspects, but it is advisable to state here, that in our opinion, the Agricultural Department in each country should, in carrying out the duties described in paragraphs 54 to 58 of this part, act in constant consultation with a National Agricultural Council or Board, which we hope may be formed so as to represent the progressive agricultural thought of the country and fulfilling analogous functions to those attributed to the German Agricultural Council by Mr. Middleton in "The Recent Development of German Agriculture."

60. We recommend further that the Board of Agriculture and Fisheries shall appoint a Departmental Committee to report how the grazing of common lands in England and Wales can be improved by regulation or enclosure with a view to the increase of production, and what legislation will be required to effect that improvement.

* The Board of Agriculture and Fisheries for England and Wales; and for Scotland the Board of Agriculture for Scotland.

61. The provision of good cottages for agricultural labourers, with ample gardens attached to them was an urgent question before the War. We desire to impress upon His Majesty's Government, with the greatest emphasis at our command, that there can be no hope of a satisfactory development of agriculture as long as the demand for cottages remains unsatisfied. The provision of these cottages should be taken in hand without a moment's avoidable delay after the War. In another part of our Report we shall deal with the improvement of the amenities of rural life, the reconstruction of stagnant villages, and the provision of an agricultural "ladder" for the labourers by means of smallholdings. We mention these subjects now lest it should be supposed that we consider that the interest of the labourer in a national agricultural policy is limited to the questions of wages and housing.

62. Our attention has been directed to the point that some amendment in the Settled Land Acts may be desirable to allow a share of the proceeds of the sale of a portion of a settled estate to be expended on improvements other than those specified in the existing Acts. For instance, we are informed that it is not at present in the power of the Trustees or of the Court to permit any part of such proceeds to be utilised for the purpose of dividing one large farm into two or three smaller farms and equipping them with the necessary farm buildings or cottages, or to enable a tenant for life himself to farm a portion of his own estate. If this is so, an amendment of the Acts, to make such an utilisation of part of the capital received from a sale of a portion of the estate permissible, seems to us to be highly desirable. We may observe that a Bill,* carefully prepared by the Law Society, containing every alteration which in their experience and opinion was required to facilitate the management of settled landed property, was introduced into the House of Lords by Lord Haldane, when Lord Chancellor, in 1914, and in our opinion that measure should be proceeded with at the earliest possible opportunity.

63. To bring about the changes in farming which we contemplate it will be necessary for the State, in addition to providing farmers with security against loss, to place at their disposal the best available scientific and practical advice. Indeed, it will be impossible to carry out the scheme (except with serious loss and wastage) unless it is accompanied by an important development of the facilities at present available in the United Kingdom for agricultural education, technical advice, and research. It will be necessary to insist on the importance of drainage, and to demonstrate throughout the country the best means of converting grass land to arable, the best methods of manuring, and the best varieties of seed; and to carry out on a much more complete system than has hitherto been attempted demonstrations devised to show that increased production can be secured without loss of profit. These subjects are, however, of such importance that we are deferring their consideration until the later part of our Report.

SUGAR BEET.

64. Before concluding this part of our Report, we wish to make certain recommendations in respect of the introduction of the sugar beet industry into the United Kingdom. For several years the possibility of developing the agricultural resources of this country by introducing the sugar beet industry into England and Wales has been under consideration by agriculturists and the Government Departments concerned. We believe that the advantages to be derived from its successful establishment would be very important. The nation, by producing a proportion of its own requirements of sugar, would reduce its dependence on imported supplies from Germany and Austria, from which countries, in the three years before the War, 1911-13, we received 63 per cent. of our total imports of sugar. The rural community would be benefited and augmented by the provision of employment in sugar factories in the winter months and of additional work on the land in the summer. Agriculture would gain by the introduction of a new crop, which yields a satisfactory cash return to the farmer and leaves a residue which is a valuable cattle food. Moreover, wherever beet was grown, the deep tillage and improved cultivation necessary for its success would prove of immense benefit to the other crops in the rotation as well as an object lesson to the country in good farming. Of all these statements there is abundant evidence from Continental sources (*e.g.*, "The Recent Development of German Agriculture" [Cd. 8305], p. 38).

65. Before the beet industry can become the object of private enterprise, it would be necessary to ascertain by experiment an answer to two questions, namely: Can sugar beet be grown successfully in this country? and, secondly, Can sugar be manufactured from home-grown beet at a profit after paying an adequate price to the grower? The first of these questions has for some years passed beyond the experimental stage. Many trials in cultivation have been made, and it is generally agreed that sugar beet can be grown successfully in many districts of England and Wales. The Board of Agriculture and Fisheries, for example, in reporting† on experiments arranged in 1911 at seven centres in England, stated: "There is no question that beet with a high sugar content can be grown in this country and give yields equalling, if not exceeding, those obtained on the Continent."

66. Since that date various efforts have been made with a view to testing the possibility of manufacturing sugar in this country at a profit, and we wish specially to mention the beet sugar factory which is in actual existence at Cantley in Norfolk. British agriculturists owe a debt of gratitude to the men who have borne the burden of the pioneer work done at Cantley, and a tribute of admiration for the pluck with which they met the unforeseen difficulties caused by the War, until the refusal of the Dutch Government to allow the export of seed brought their operations to a temporary conclusion. Nevertheless, we do not think that an

* Real Property and Conveyancing Bill: Ordered to be printed August 6, 1914.

† Cd. 8162, 1912, page 14.

experiment on an adequate scale has yet been made. Up to the present the Government has been hampered in providing financial assistance towards the erection of a sugar beet factory (or in guaranteeing a company against loss) by two considerations. In the first place, the Brussels Sugar Convention limited the extent to which Government assistance could be given to the industry by pledging adhering States not to give bounties on the export of sugar, which the Board of Trade considered included the payment of grants to assist the manufacture of home-grown sugar, of which some might be exported. His Majesty's Government withdrew from the Brussels Sugar Convention as from 1st September, 1913. Although, at that time, they expressed continued adherence to the fundamental principles of the Convention, they reserved to themselves power, by giving six months' notice, to adopt any measure they thought fit to promote the establishment of the sugar beet industry. The second difficulty has been the limitation imposed on the Development Commissioners by the Development and Road Improvement Funds Act, 1909, to recommend advances only to associations not trading for profit. Probably one of the best ways in which the required experiment could be carried out under commercial conditions would be for the Government to undertake to share (or to guarantee) any loss, up to a specified amount, which might be sustained by a company aiming at making a profit for its shareholders. Such a scheme cannot at present, however, be aided from the Development Fund. To surmount this obstacle we recommend that either the Development and Road Improvement Funds Act should be amended in this respect, or that the Government should provide the necessary assistance from sources not subject to the same restrictions as the Development Fund.

67. A Society, entitled the British Sugar Beet Growers' Society, Limited, has recently applied to the Treasury for a grant from the Development Fund to enable it to purchase an estate of about 5,000 acres with a view to the erection of a factory and the cultivation on its own land of a sufficient acreage of beet to produce the minimum amount of roots required to work the factory economically. Captain Berville Stanier, M.P., the Chairman of the Society, in his evidence before us, stated that the capital required to purchase the estate, erect and equip the factory, &c., would be £500,000, of which he hoped that the Government would agree to contribute one-half, to be repaid, if required, at the end of ten years, during which period the State would be asked to guarantee interest on the remaining capital raised from private individuals. The State would also be asked to undertake to continue during the initial period of ten years the present surtax, that is, the difference between the Customs duty on imported sugar and the Excise duty on home-grown sugar, which at the present time amounts to 2s. 4d. per cwt. We believe this scheme to have been thought out with great care and to be a sound one, but as it is now under the consideration of the Government we do not express any opinion upon its details. We desire, however, to place on record our opinion that before the industry can be established it is necessary to ascertain (a) the price which a factory could afford to give for roots; (b) whether that price will be sufficient to induce the farmer to substitute beet for a portion of his present root crop, and (c) how far beet growing can be introduced into the systems of farming at present carried on in this country. These questions can only be settled by an experiment on a commercial scale, but we are of opinion that the best method of conducting such an experiment will be by the institution of a large farm under the same control as the factory.

68. In view of the great importance which we attach to the establishment of the beet industry, we urge the Government to arrange without further delay for a complete test of the commercial possibilities of manufacturing sugar from home-grown beet. We hope that this test will prove that a considerable proportion of the sugar we consume can be grown in the United Kingdom, and that the introduction of the beet crop into the rotation will increase the yield of the other crops. In short, we believe that it will prove that the introduction of the sugar-beet industry will be a contribution of much importance to the increased production of foodstuffs in the United Kingdom.

We are,

Sir,

Your obedient Servants,

(Signed) SELBORNE (*Chairman*).
CHARLES BATHURST.
CHARLES DOUGLAS.
AILEY FELLOWES.
W. FITZGERBERT-BROCKHOLES.
A. D. HALL.
WILLIAM A. HAVILAND.
C. BRYNER JONES.
*DENIS KELLY.
HORACE PLUNKETT.
ROWLAND E. PROTHERO.
G. G. REA.
GEO. H. ROBERTS.
EDWARD G. STRUTT.

H. L. FRENCH,
A. GODDARD,

Joint Secretaries.

30th January, 1917.

REPORT

BY

SIR MATTHEW WALLACE.

To the RT. HON. D. LLOYD GEORGE, M.P., Prime Minister.

SIR,

While there is much of the foregoing Report with which I am in cordial agreement, I nevertheless find in it implications which are contingent upon policy from which I dissent, and I find myself unable to add my signature to those of my colleagues and prefer to state my views in a separate memorandum. It must be borne in mind that the reference deals exclusively with post-war conditions, and I demur to the present state of emergency and the measures adopted to cope with it being exploited so as to postulate a continuance of these measures as a settled policy after the War.

2. I agree that a complete and thorough survey of all existing agricultural conditions is required since no step can be judiciously taken without it, and in regard to labourers' cottages I agree with the Report.

3. I also agree with my colleagues in reference to agricultural wages and wages boards, but I object to this necessary reform being made contingent upon the policy of guaranteed prices for corn. The question is one chiefly affecting the south of England, since wages in the north of England and in Scotland have been fairly high, and a Wages Board has no terrors for employers there. In the south of England, where wages are lowest, rents are also lowest, and it is not apparent that the conditions prevailing are incompatible with the payment of the same wages as those obtaining in the north. A return for such increase is usually to be found in greater efficiency. The question was a claimant one before the War and was about to receive attention. The late Prime Minister, Mr. Asquith, seven months before the outbreak of war, indicated the method by which he proposed to effect a remedy, as follows:—

"We have reached the conclusion that this is a case in which the State must step in and secure a minimum wage. What do I mean when I use the expression 'a minimum wage'? I mean a wage such as to ensure a labourer of average industry and prudence reasonable conditions of living, among which I include, and note this, the ability to pay a commercial or economic rent for the house in which he lives. . . . We believe—I say it as the result of careful examination—that the raising of the wage in the worst-paid areas to the level upon which it is already paid, without any undue tax upon the profitableness of the agriculture, in the areas which are best paid, will not in the long run impose any burden upon the farmer. Not only in this, but in other industries; not only in this country at this time, but in other countries at other times, all experience shows that ill-paid labour is the least efficient and that an increase in efficiency, due to better food and to the raising of the general conditions of daily life, will sooner or later—and, as we think, sooner rather than later—make itself apparent in increased productiveness and yield. But note the less we recognise that the change may carry with it temporary burdens, and we propose, as you know, that, if the farmer can show on application to this Judicial Commission, that that is the case they may consider its bearing on the rent which he ought to pay to the landlord, taking, of course, into account whether he was fully or under paid before."

This, to my mind, is a sound policy applicable to the whole country after the War.

4. The first portion of the Report with which I find myself in conflict is the narrative of the Depression and its effects. It is incomplete in one most important particular, viz., the omission of all reference to the inflation of rents which took place in the 'sixties and 'seventies and which kept pace with the rise in prices of produce. This was the real cause of the farmers' distress when prices fell. When rents were reduced the situation was eased, but meanwhile much farmers' capital had disappeared. Mention is made of the landlords' losses of £834,000,000, arrived at by a remarkable process of computation, viz.:—

Date.	Annual Value.	Years' Purchase.	Capital Value.	Loss.
	£		£	£
1875... ..	55,618,426	30	1,668,552,840	} 534,833,718
1894... ..	46,817,729	18	833,713,132	

To appreciate the true value of these figures a comparative statement of the twenty years prior to 1875, showing the annual value of 1855 \times 18 years' purchase and 1874 \times 30 years' purchase would be required. The balance of gain would, in my opinion, far more than outweigh the enormous figure represented as landlords' loss. It is indeed a matter of surprise that rents underwent so small a reduction considering the severity of the depression and having regard to the previous inflation.

5. Similarly under this head (para. 7) the recital of effects is incomplete. The deplorable condition of Essex is no doubt quite correctly described, but it should also be added that there was an almost immediate immigration into that derelict county—to a considerable extent from Scotland. It cannot be truly said that the incomers were lacking in brains, and they either brought capital with them or they speedily amassed it, for they or their sons are now extremely prosperous, and first-rate food producers. That a portion of Essex within a few miles of London, the best market in the world, should still remain in a derelict condition, "clothed with a dense growth of bramble, briar, thorn and gorse" is truly deplorable. Surely legislation can provide a remedy for this. Before the War thousands of competent farmers emigrated annually, and after the War many thousands will follow, in search of land presenting physical difficulties of cultivation compared to which the clearance of bramble, briar, thorn and gorse are trifles. Give such men the chance of occupying this derelict territory on prairie terms and there will soon be no waste land in Essex.

6. It is on the head of minimum guaranteed prices mainly that I disagree with the Report, the policy indicated being minimum guaranteed prices on wheat and oats. It is advocated primarily on the ground that it would provide security and stability to the farmer. This assurance I cannot accept, and it is necessary to go closely into the reason of my scepticism. In the first place, minimum guarantees are themselves essentially unstable. Even on this Committee, after considering for two months and hearing evidence, the prices deliberately adopted remained constant for only one week, and more recent experience affords abundant illustration of the uncertainties attaching to the fixation of minimum and maximum prices. Since one Parliament cannot bind its successor, there can be no security for a continuing policy while the perils of uncertainty are manifest. Therefore, in my opinion, the farmer would do well not to rely on any such artificial assistance. Moreover, such artificial prosperity is liable to leak. The Report discloses at least two ways by which the farmer can immediately be relieved of his subsidy, viz., increased wages and increased taxation (para. 44). I would venture to suggest a third, viz., increased rent—not less probable than either of the other two. Most if not all of the witnesses admitted that any State subsidy must reflect on rents, and indeed such is the tacit admission of the Report. It is plain, therefore, that the farmer would be left with only a fraction of his bounty, and it must be obvious that, if it takes the whole of the difference between the "Gazette" price and the guarantee to induce a farmer to break up grass and grow corn, a fraction thereof will be unlikely to encourage him to persevere. There is another point upon which the farmer would do well to reflect, viz., that minimum guaranteed prices are apt to become maxima, indeed such a result would appear to be by no means improbable. If a farmer is guaranteed his prices and consequently his profit, the harrier meanwhile being borne by the taxpayer, will not the taxpayer in his turn demand that when the "Gazette" price exceeds the guarantee, the surplus should flow to the Treasury?

7. What is described in the Report as slack farming is greatly to be deplored, and an amendment must be sought for, and insisted upon, but I do not believe that the payment of a bounty would stimulate a slack farmer, who would continue to grow the same quantity of wheat as before and pocket the bounty. It used to be said that the best way to stimulate a farmer was to raise his rent, and I think a hint of this is contained in the last sentence of para. 49. At all events it is a doctrine which has been revived and quite recently advocated publicly by one who is both an eminent agriculturist and a landlord. These two plans for stimulating the farmer are incongruous, but their juxtaposition is not without the suggestion that the one provides an easy method of achieving the other. The farmer would do well to study the machinery proposed for administration in paras. 37 and 38, and will doubtless realise how complicated and unworkable it is.

8. The first and most patent objection to minimum guaranteed prices on corn is that the minimum guarantee must be high enough to fit the minimum yield per acre. The Committee were told by Mr. T. H. Middleton, Assistant Secretary to the Board of Agriculture, that of the three million acres which would require to be broken up to reach the 1874 standard of tillage in England and Wales, two million acres would be of equal staple and capable of producing equal crops to the land now bearing wheat, but that the remaining one million acres would grow only 27 bushels per acre with the best management and most scientific treatment as regards seed selection and fertilizers. The guarantee must therefore be high enough to secure the occupier of such land a profit if he is to be induced to grow wheat, and if such guarantee is forthcoming, and is universally applied to all wheat growers, it is obvious that public money would be granted unnecessarily when the economic point of yield is reached. Such a scheme of bounties is calculated to aggrandise those who do not need assistance and to stint those who do. Thus, supposing the difference between the "Gazette" and guarantee prices was 10s. per quarter for wheat, the man whose land will only produce three quarters per acre would only get 30s. per acre, and it would not be enough. On the other hand, the man whose land produces six quarters, and who certainly needs no help, would get 60s. per acre. To illustrate this point I would refer to the evidence of two witnesses. One, who was a large grower of wheat on good land, told the Committee that his yield was seven quarters per acre, and his figures showed very high profits under pre-war conditions. He advocated a guaranteed minimum but when pressed he frankly avowed that to endow him in this way would be a gross abuse of public funds.

9. The other, who was most reluctant to admit any profit in wheat growing, advocated a minimum guarantee of 75s. to 80s. per quarter, and concluded by declaring that, no matter what steps were taken, not another quarter of wheat could he get from Norfolk, which already was in full bearing of wheat. Now Norfolk produces 500,000 quarters annually and the difference between the 1913 price and the guarantee demanded by this witness would be at least 40s. per

quarter, making a sum of £1,100,000 to be granted annually from public funds to Norfolk, which would hardly be a good bargain for the State, since, according to this witness, no more wheat would be forthcoming. These are, no doubt, extreme cases, but they serve to illustrate the operation of guaranteed prices and show how public money can be made to flow in channels which are wasteful and unproductive.

10. Further, in aggravation of this abuse the Report suggests that the good land should be retained in grass and the land of poor staple put to tillage. Paragraph 31 enumerates four classes of pasture, three of which it is claimed should not be ploughed, the fourth only being put to tillage. The second and third classes, i.e., grass on plastic clay and grass in an impossible climate, both of which present obstacles to tillage, difficult to overcome, had probably better remain in grass. But I join issue sharply with the Report upon the treatment of the first class and the last class of pasture lands enumerated. The first class is good land. It is not suggested that it offers any physical obstacles to tillage. The excellent pasture it bears is indicative of its excellent inherent fertility. It is here precisely where the most beautiful of tillage crops could be produced, wheat, potatoes, roots and rotation grasses. The plea that its retention in grass can be "defended on economic grounds" cannot be accepted. It may yield the owner as good a rent as it would fetch as tillage land, it may yield the occupier a comfortable profit without much trouble, in short it is a thoroughly sound economic proposition; but that is not the question. It is not a question of whether it is economically sound in grass, but whether it would be economically sound in tillage. If it can be shown that it offers insurmountable difficulties to tillage or that it would grow poor crops in tillage rotation there is nothing to be said, but it would be wrong to exclude it from tillage on such slender ground as that it pays in grass, and it would be the surest way to defeat the purpose set out in the remit to this Committee. The phrase "defended on economic grounds" is a loose and ambiguous one under cover of which hundreds of thousands of acres of what is or can be made the best arable land in Britain would be excluded from tillage, land capable of growing crops which need no bounties. If attention be directed to the other category of grass it will be found to contain the greater part of the million acres capable of producing at the best 27 bushels of wheat, and not only will its cereal yield be low, but it will be a struggle to make ends meet throughout the whole rotation, since it was clearly proved from Mr. Middleton's figures that this class of land was much more expensive to work. This is, of course, the class of land that would require bounties if tillage thereof were made compulsory. Political economists can form their own opinion of a proposition which excludes land from tillage which is self-supporting and highly productive in tillage, and includes land which is unprofitable in tillage and requires grants from public funds to supply the deficiency. As a tillage farmer of long standing and experience, occupying both classes of land, I must record my opinion that such a policy is subversive of every principle of tillage good husbandry, and that its adoption demands that those who practise it shall receive the aid of bounties. There is no reason why land of poor staple which has 'tumbled down' to grass should remain in that condition, and the fact that it has so remained is not creditable to those responsible for it. Labour has certainly not been costly in districts where these conditions chiefly obtain. There have been many periods during the thirty years in question when grass seeds were good and cheap. Such land can be properly laid out to grass, and as grass can be nourished with fertilizers. On the other hand, good land should be made to produce its last ounce of food under the plough. Mr. Middleton's evidence was that the million acres would bear one-fifth annually in wheat, that is 200,000 acres, which at 27 bushels per acre gives 5,400,000 quarters per annum. It seems incredible that for such a small quantity of wheat or a proportionately small quantity of oats the whole economy of agriculture should be disturbed, a bounty-fed system which might cost the Treasury millions of pounds annually set up, and cumbersome, costly, and inquisitorial machinery of administration invoked.

11. The Report is based on the assumption that cereal growing does not pay, and indeed that it is only engaged in with fair constancy year by year because of tenacity to custom and of faith in what the future may hold. It can hardly be suggested that custom and hope would enable a man to carry on this business at a loss for 35 years. Another reason vouchsafed is the convenience of having straw. Now, straw is not a convenience, it is an absolute necessity to the arable farmer; he cannot do without it. It is a most important integral part of his business without which he can neither feed his stock nor fertilize his land. Therefore it has value. Evidence was given before the Committee as to the value of straw per acre, and the lowest figure named was £2 per acre and the highest £4 10s. The mean of these figures—£3 5s—is exactly fifty per cent. of what was shown to be the average cost of growing wheat—£6 10s.—per acre. But the evidence of farmers before the Committee showed that profits on wheat were by no means confined to straw. All were prosperous growers of wheat and some submitted their accounts showing substantial profits on wheat even in the derelict county of Essex. It is idle to single out any one crop of a rotation, and say that it does not pay; that indeed could easily be done with every crop in the rotation, and figures could be produced purporting to justify such a conclusion. The broad question is—Does tillage pay? The answer is that it does; and the statement that it does not is negatived by the success with which farmers have been able to carry on.

12. In the matter of finance the Report is not very bold. It is not enough to express the opinion that the world price will not fall below the guarantees named—42s. per quarter for wheat, and 23s. per quarter for oats—and to indicate a ready reckoner in the event of this happening. It will be better, I think, to face the matter. I do not suggest that any calculation should be founded on a price—22s. 10d. per quarter—which happened only once in sixty years,

nor on the average of the decade of low prices. It would not, however, be unreasonable to use the average figures of the ten years prior to the War—32s. per quarter for wheat, and 19s. 6d. for oats—in which case the margin the Exchequer would annually have to pay would be 10s. per quarter on wheat and 3s. 6d. per quarter on oats, and the amount payable would be approximately £3,500,000 for each kind of grain, a total of £7,000,000. That would be the sum if there was no expansion at all. If the production was doubled, the annual payment to farmers would amount to £14,000,000. These figures do not represent all the cost to the country, for the ponderous machinery of administration is bound to be very expensive. I do not wish to go further and suggest a higher production and still higher payment, as I do not believe the production can go further, although I am persuaded that it would by no means complete the bill, for once the principle of guaranteed prices is adopted, it will be found to be an exceedingly slippery slope, and those who rely on the production of food other than wheat and oats will never rest content so long as their products do not enjoy similar treatment.

13. The above calculations are based upon the minimum guaranteed prices which the Report recommends should be perpetual. But for the first two years after the conclusion of peace it is recommended that the guaranteed prices of wheat and oats should be at least comparable to the prices ruling during the War itself. When that was written and signed the price of wheat and oats ranged at about 75s. and 50s. per quarter respectively. Can it be possible that these prices or prices approaching them are seriously recommended as minima for two years after the conclusion of peace? What is there to justify such a proposal? It is not suggested that farmers require these high prices to make profits even now; still less so after the War, when the labour difficulty will be eased, at all events as respects supply, and when fertilizers will be cheapened by the release of acids no longer required in munition making.

14. The effect of guaranteed prices on rents has already been alluded to, and the question is asked in the Report:—Should a Land Court be established to adjust rents? As a business man I have never been able to see why landlords should not take economic rents; but I remark here that if such economic rents are affected by grants from public funds, then the landlord must submit to public control. In any case some control of both landlord and tenant is necessary to secure maximum production. It is stated in paragraph 50 that "Landowners find it difficult and invidious to give notice to quit to an otherwise estimable neighbour, because he is a bad farmer." I agree with the Report that some machinery is necessary to enable that difficulty to be overcome. The Report suggests the necessary tribunal in paragraph 58—The Board of Agriculture—through whose interposition the landlord is to be enabled to get rid of a bad farming tenant. Now, what is this but a sort of Land Court? Assuredly, as national interests and the landlord's interests alike demand an appeal to the tribunal in the case specified, so also do national interests and common elementary justice demand that the tenant shall have a similar right of appeal as well as protection against disturbance in his tenure for any assigned reason, including that of rent. A little consideration will, I feel sure, show that the Board of Agriculture officials are not the proper persons to deal with such questions. They have their own proper duties, and had much better not be concerned with landlord and tenant disputes. A statutory body composed of specially qualified men is much to be preferred.

15. In formulating an agricultural policy the first thing to be considered is, in my opinion, security and stability to the farmer, security, that is, in his tenure and in the fruits of his enterprise. No man can be expected to put forth his utmost efforts in creating national wealth, and prosperity for himself, which another may take. In my opinion the time has arrived when, in the interests of the State, this question must be resolutely faced. Only in such an event can compulsion of the farmer be justified.

16. The remit enjoins consideration of this subject with regard to national security. I do not believe that it is possible to provide security in the sense of producing home grown food sufficient for the consumption of the entire population. There are too many mouths and too few acres. But, undoubtedly, the food production of Britain can be enormously increased by more tillage and better farming. In these two respects there is no serious difference between the opinions of the majority of the Committee and my own.

17. Efficiency is, however, the keynote of the situation, and the means of ensuring this the State can provide. The second part of the Report will, I am sure, indicate how this can be accomplished. Instruction and information have not yet reached the man who tills the soil; his desire for knowledge has not even been quickened. Give the farmer information, acquaint him with the reason of things, and you will give him the most wholesome kind of State aid. To some extent this has been accomplished, and where this is the case I am certain that never in the history of British Agriculture has there been a period of better farming and greater production. Indeed it is true almost universally in certain districts and of certain selected crops. One could, for instance, point to the enormous development of potato culture in East Anglia, or to the market gardening of Evesham, and ask with pride, where in the wide world such production could be matched; and this has been accomplished, not by sitting down, wringing the hands and whimpering for bounties, but by the application of high intelligence, technical skill and industry.

18. Technical instruction and agricultural education generally should in my opinion be under the jurisdiction of Departments of Agriculture as it is in Ireland, and the powers, functions, and efficiency of these Departments should be enlarged in manifold degree. A million pounds, or a much larger sum if necessary, annually spent in this way would repay the expenditure tenfold. It is no use trying to teach agriculture in colleges or farm books alone. To raise the standard of efficiency and of production, instruction must be brought right down to

the farmer, and his interest must be enlisted. Demonstrate to him on his own land, even keep his hooks for him for a time if necessary; but leave him with no excuse for ignorance. When all that has been done it will be time enough to use compulsion in respect of methods. For that no complicated machinery is necessary. Moreover, land in grass which ought to be in tillage, and which can be proved to be profitable in tillage, should reasonably be the subject of taxation; a precedent for this is the Irish policy now in operation.

19. I confess I have not been able to arrive at a clear view upon the question of the payment of a bonus for breaking up grass. The evidence was conflicting as to the necessity, and in the main I am inclined to the opinion that the farmer breaking up grass has, in the cumulative fertility accruing from long retention in grass, an asset sufficient to carry him well through initial outlays. But under this head I think the landlord is clearly entitled to some consideration. In many cases he will have to provide equipment where there is an extension of tillage. Such advances need not be uniform or universally applied, but I am of opinion that there is a principle of justice involved which should not be disregarded. The experience of the present year, when it is hoped large areas will be brought under the plough by the system of bonuses adopted, will be of the utmost value in determining what action should be taken in the future.

20. I have no personal experience of the cultivation of sugar beet, but after a careful consideration of the evidence I support the recommendation of the Report. Unquestionably, if a root crop of such importance could be established as an economic proposition it would go far to solve the problem of increased tillage. Root crops, or, as they are called in some districts, fallow crops or green crops, are, in my opinion, the foundation of tillage operations and are in the true sense the pivotal crops. Secure these, and cereal crops automatically follow. This is, of course, diametrically opposed to the opinion expressed in the Report that cereals are to be the pivotal crops. I regard this difference as one of extreme importance, and it governs to a great extent the different opinions expressed. In this opinion I am supported by Dr. Russell, of Rothamsted, who says in his evidence "The key to the situation seemed therefore to lie in the root or fallow break. The wheat crop may be regarded as the superstructure seen by the public but the root crop was the foundation on which it rested."

21. The fact that on the one hand this country with its teeming population affords an unsurpassed market for agricultural produce, while on the other, the land of these islands provides soil of almost unrivalled productivity, should surely lead to the reflection that some intervening obstacle must be responsible for any failure on the part of agriculture as a profitable industry.

I am, Sir,

Your obedient Servant,

(Signed) MATTHEW. G. WALLACE.

20th February, 1917.

REPORT OF SUB-COMMITTEE—continued.

POSTSCRIPT TO PART I.

68. We may now conclude what we have to say upon the question of a minimum wage. In Part I. of this Report we have already considered the possibility of an intimation from the Board of Agriculture and Fisheries for England and Wales and from the Board of Agriculture for Scotland to the local Wages Boards or Committees in the Counties to the effect that no recommendation could be entertained in respect of a minimum wage anywhere in Great Britain if it fell below a certain fixed sum, and in Paragraph 31 we intimated our intention to revert to the subject. Since Part I. was sent in to the Prime Minister the sum has been fixed at 25s. a week in the Corn Production Act. Experience of the working of this scale will show whether it should be varied or whether it can, for the present, be adopted as the definite sum below which the weekly wages of an ordinary agricultural labourer shall not fall; but in this connexion we think it absolutely necessary to repeat the caution uttered in Paragraph 33 of Part I. of our Report, (where we made our recommendation of a definite guaranteed minimum price of wheat and oats after the war) that we could have no certain knowledge of the cost of production after the war, and that therefore it may well be necessary for His Majesty's Government hereafter to revise our recommendation in the light of ascertained facts.

70. Since Part I. of this Report was issued the maximum prices of many agricultural products have been fixed by the Food Controller in addition to those fixed by the Army Council. The measures of the Army Council and of the Food Controller have been accepted by the farming community as an undisputed necessity of a state of war, but we are not surprised to learn that the Board of Agriculture and Fisheries and the Irish Department of Agriculture are convinced from the results already apparent that such emergency measures should be abandoned as soon as possible after the restoration of peace if agriculture is to be continuously progressive after the war.

71. *Ireland.*—In Paragraphs 32 and 34 we stated that the recommendations therein made in respect of a minimum wage and of the method of securing increased production did not apply to Ireland, and that we should make corresponding recommendations for Ireland in a later part of our Report.

72. The Irish Government has set up in Dublin a Wages Board to fulfil the same functions in respect of the wages of agricultural labourers in Ireland as we have assigned to the Wages Board in Great Britain in Part I. of our Report. We recommend that that Board should be made permanent, and that it should have power also to create local Wages Boards or Committees in the Provinces, representative of all the interests concerned.

73. We will, however, permit ourselves an observation on a point of importance which emerges from a consideration of the policy of increased production. Clearly it will involve the erection by the Local Authorities of many more cottages under the Labourers (Ireland) Acts. At present cottages so built are let to the labourers at a wholly uneconomic rent, which amounts in fact to a subvention of wages out of the rates. If the labourer in Ireland is to have a minimum rate of wage secured to him by statute, we see no reason why the Irish, any more than the British, labourer should not pay to the Local Authority a full economic rent for his cottage.

74. Before finally leaving the subject of wages we desire to call attention to the fact that the institution of a minimum standard wage inevitably entails the institution of a minimum standard of effort and efficiency in a day's labour. Unless the farmer exacts such a standard, he cannot expect to farm otherwise than at a loss. Unless the able-bodied labourer conforms to such a standard, he cannot expect employment.*

75. In paragraphs 52 to 63 of Part I. of our Report we recommended means of enforcing proper cultivation of the land in Great Britain. The Board of Agriculture should bring pressure to bear on the landowners, and through them on their tenants, to use the land in the manner that would best promote the interests of the country in regard to Food Production. In case of default and in the last resort the Board should determine the tenancy of the occupiers, or take over the management of part of the estate of the landowner. Two-thirds of the lands of Ireland have been purchased by the occupiers under the Land Purchase Acts, and, therefore, no pressure can be exercised on them through landowners; and the remaining occupiers share in a dual ownership of the land, and their tenancies can be legally determined for the sole cause of non-payment of rent. Therefore a distinct method of enforcing the proper use of the land must be found for Ireland. Ireland is a country of numerous small agricultural holdings. Without including 100,000 occupiers of allotments of one acre or under, there are in Ireland 450,000 occupiers of agricultural holdings. Out of that number 360,000 hold less than 50 acres each, and a total of 7 million acres of the 20 million acres contained in the country. It would be quite impracticable that the Department of Agriculture should undertake the management of these small holdings.

76. The greater part of the cereals and roots produced in Ireland are grown on the third of the country's area held by these small occupiers. Ireland also has a small number of large agricultural holdings. There are 11,000 occupiers who hold each over 200 acres, and a total area of 5 million acres. This section of the country contains the most fertile land, and that held by the small occupiers contains the poorest and most barren land in Ireland. On these large holdings the proportion of ploughed land is very small, and in order to secure a large increase in food production a reasonable proportion of these lands must be brought under the plough.

* The subject is admirably treated in a pamphlet on Agricultural Labour by Mr. T. B. Ponsbury; published by the Co-operative Reference Library. Dublin, 1917.

77. To meet the conditions in Ireland we shall presently recommend a twofold method of enforcing cultivation; but first we shall describe what has already been done. In pursuance of Regulations made under the Defence of the Realm Act by the Irish Department of Agriculture the amount of land under crops in Ireland has already been greatly increased. The Regulations required that, in addition to the land tilled in 1916, the occupiers should till in 1917 10 per cent. of the total cultivable land on the holding unless and until the total ploughed area exceeded 50 per cent. of the cultivable portion of the holding. Small holdings under tea acres, paddocks, bleach greens, and dairymen's pastures, used exclusively to produce a supply of milk for neighbouring cities and towns, were exempt from the Regulations. Where the required tillage was not done, the Department had power to take possession at their discretion of the whole or part of the holding, and to till the land themselves or let it in lots for the season to those who undertook to till it. The Department has exercised this power of entering on the land in numerous instances. The Department has already announced that it will require to be tilled in the year 1918 an additional 5 per cent. of the total cultivable area of each holding. It will require a further 5 per cent. each succeeding year until the Department certifies that the holding is best used in the interests of the country. We were informed by witnesses from the Department that the total percentage of tillage would vary on different holdings according to the character of the land. The percentage would be less on butter, fattening, and cheese farms than on some other classes of land. We had it given in evidence that even on the best pasture farms there is a greater or less proportion of land which would be more productive under cereals and roots than under grass, and that the yield of such farms would thereby be largely increased.

78. We recommend that the present powers possessed by the Department of enforcing proper cultivation by entering on the land and tilling or letting it should be enacted in a permanent Act, and we understand that, in addition, the Department desires to receive power to inflict a fine of £5 upon the occupier for every acre or part of an acre of land that should be tilled and was not tilled in a particular year.

79. Some holdings are in the occupation of incompetent or incapable persons whom neither instruction nor penalties can improve in their methods, the land deteriorates and is wasted for several years, the occupier grows poorer and poorer, and is generally crushed out by his or her creditors. It would be in the interests of the nation and of such occupiers that that process should be stopped at a comparatively early stage. The Department of Agriculture wishes to have power to purchase the interest in their holdings of such persons at a price fixed by the Irish Land Commission, who have all the records and the machinery for fixing these prices, and who could supply the funds for the transaction. The Department would sell those holdings by public auction to competent cultivators, or divide them up into smaller holdings, selling them and providing for a certain number of the most skilful and progressive of the labourers, or vest them in trustees to hold them for the purpose of grazing cows to supply milk to small towns and villages.

80. It will be sufficient if we express the opinion that there is no body which can compete with the Irish Department of Agriculture as an authority in the consideration of such a policy for Ireland, and that no policy not wholeheartedly supported by it would have any chance of success.

PART II.

SCOPE AND LIMITATION OF THE ENQUIRY.

81. In the introductory paragraphs of this Report we explained the circumstances which led to the early publication of Part I. Lord Crawford and Balcarres, then President of the Board of Agriculture and Fisheries, urged us to issue an interim report upon a guaranteed price and a guaranteed wage as matters upon which immediate legislative action might be taken. These were dealt with subsequently in the Corn Production Act. We had, therefore, to devote Part I. almost exclusively to those two urgent and interdependent factors in the problem of increased food production, and to the method of ensuring that that production was achieved; and we could give no more consideration to the other aspects of agricultural reconstruction than was necessary for an adequate presentation of the case for the definite recommendations which we made. We, of course, accepted the position without demur, though it somewhat added to the difficulties of our task. We could not stop to determine, after a review of the agricultural situation in its entirety, the scope and the limitations of its treatment. An inquiry of incalculable national importance was thus at the outset robbed of the human interest attaching to the larger national problem, which is needed to sustain the reader, who is neither personally engaged in agriculture nor a student of related social and economic questions, through the maze of unfamiliar conditions now in process of transformation. We, therefore, think it desirable to do here what in other circumstances might have been more usefully undertaken in an introduction to Part I. and to indicate briefly the bearing of our title and reference upon the radical changes in our rural social economy which, we are convinced, must form an organic part of any sound scheme of national reconstruction after the war.

82. We have been charged "to consider and report upon the methods of effecting an increase in the home-grown food supplies." By no simple means can this end be attained. Before a complete answer could be made it would be necessary to examine the present condition of British farming—its actual and potential productiveness and the methods of marketing; to consider how far the industry may be stimulated by a general education and a technical training more suitable to the needs of rural workers; by changes in our system of local taxation and in the prevailing systems of tenure; by better credit facilities and cheaper transportation. Our title covers the whole of this vast field of investigation, but we feel bound to point out that, if we were fortunate enough to agree upon a perfect scheme of needed legislative and administrative changes enhancing all these matters, much would still have to be done by voluntary agencies to bring about an all round improvement in the social conditions of country life, and so to provide an adequate counter attraction to the lure of the city. Indeed the problem before us embraces the solution of four problems, the establishment of a permanent reservoir of healthy and contented men and women from which the physical strength of the rest of the nation can be perpetually renewed, the creation of a larger home market for our manufactures than that which at present exists, security of their food supply for the whole people even in times of peril, and the re-establishment of a proper social and political balance between the urban and the rural community. If this be not understood and kept clearly in mind the relevance of many subjects treated in our Report will not be appreciated.

THE DEPARTMENTS OF AGRICULTURE.

83. Before we proceed further with our definite recommendations for a new agricultural policy, it is necessary to review the present constitution, scope and functions of the chief agencies concerned, the Departments of Agriculture. First, in order of time, came the Board of Agriculture for Great Britain, established with the narrow conception of an office merely charged with the administration of certain Acts of Parliament. Then came the Irish Department of Agriculture, founded with the definite ideal of a constructive agricultural policy. Finally, Scotland severed its agricultural administration from that of England and Wales. And now the separate Boards for England and Wales and for Scotland, in friendly rivalry, have plainly set before them as their proud and chief duty the constructive development of agriculture. There are, therefore, three of these Departments in the United Kingdom, and in Wales a movement exists to create a fourth. We recognise the strength of national feeling and the reality of special circumstances, but from other points of view it would have been better for agriculture if there had been only a single department of agriculture within the area of these islands. The dispersion of agriculture between three offices has undoubtedly lessened the influence of the agricultural interest in the Cabinet and contributed to the lack of public concern for the most vitally important national industry. We must, however, deal with facts as we find them and not leave out of account the possibility of further changes. We shall recommend steps by which the three Departments may be brought into conference for the discussion of matters of great agricultural importance to the whole United Kingdom, and we shall make proposals designed in genuine sympathy to meet the special circumstances and the national feeling of Wales. We feel, however, that the creation of another separate department of agriculture would unnecessarily complicate agricultural administration and further grievously weaken the influence of agriculture with the nation, and that it is at least doubtful whether Wales would gain more than it lost by the change.

84. We shall discuss first the Irish Department because, as will be seen, its peculiar origin, constitution and activities have a suggestive value in the consideration of the changes we shall recommend for the reform of the Departments in England and Scotland.

85. *The Irish Department of Agriculture and Technical Instruction.*—The Irish Department of Agriculture and Technical Instruction, of whose origin, constitution, functions and resources we give a somewhat full account below, arose out of the recommendations of the Recess Committee which sat in the years 1895-6. This body was unofficial and self-appointed, but it succeeded in associating together for its enquiries and deliberations representatives of all political sections, and leaders of the agricultural, industrial, commercial, and professional classes. The Committee set itself to investigate the methods adopted by Continental Governments for the development of agricultural and industrial resources. Special commissioners were dispatched to make this enquiry in nine countries whose conditions and progress might afford some lessons for Ireland. The report, which was signed unanimously, sketched the kind of Department Ireland required. It was an adaptation to the peculiar circumstances of that country of various types of Continental Departments. In every case the commissioners found that three principles were observed in the constitution and working of these Departments—representation, education, and organisation. How the Irish Department was linked with the local administrative bodies will be seen later, and its educational methods will be described. The promoters of the movement, which the Recess Committee succeeded in commending to popular favour in Ireland and also to Parliament, were perhaps more interested in the principle of organisation. It was strongly held that an efficient Department of Agriculture should not only be representative in the popular sense but that it should also seek every opportunity of utilising and working with voluntary associations of the agricultural classes. Just as the Department grew out of the Recess Committee, the Recess Committee may be said to have grown out of the agricultural organisation movement which had preceded it by six years, and had taken definite shape in the foundation of the first of the Agricultural Organisation Societies in 1894. It is significant that the Recess Committee appealed to Parliament that public assistance to agriculture should be so given as to supplement, but in no wise to provide a substitute for, voluntary effort.

86. The Agriculture and Technical Instruction (Ireland) Act was passed in August, 1889, and came into operation on the first day of April, 1900. In the interval between these two events the Irish Department of Agriculture and other Industries and Technical Instruction was brought into existence through the appointment of the Vice-President by one of Her Majesty's Principal Secretaries of State. The Vice-President exercises and performs all the powers and duties of the Department. The Chief Secretary for Ireland is *ex-officio* the President of the Department, but he does not actively intervene in its proceedings.

87. This Report is concerned only with the agricultural side of the Department's work. The Department is assisted herein by—

- (a) A Council of Agriculture.
- (b) An Agricultural Board.

88. The Council of Agriculture consists of 104 members, viz., 88 appointed by the County Councils of the Administrative Counties of Ireland, 34 nominated by the Department, and 2 *ex-officio* members, the President and the Vice-President. The Agricultural Board consists of 12 members, 3 for each of the Provinces. Of these, 8 are elected by the Council of Agriculture and 4 are nominated by the Department. The Council of Agriculture is constituted anew after each triennial election of the County Councils. At the first meeting of the new Council of Agriculture, the members representing each Province form separate Provincial Committees for the election of the 8 members of the Agricultural Board.

89. The Department calls the meetings of the Council, usually in May and November, but in cases of emergency special meetings are summoned. All matters of public interest in connection with agriculture are discussed. The Department, as a rule, sets down for discussion one or more subjects on which it wishes to gather the authoritative opinion of the country, or in respect of which it wishes to stimulate, educate, or form opinion. The members of the Council are also invited to submit subjects for discussion, and they freely use this privilege by placing resolutions on the agenda. At the next meeting of the Council the Department explains the action it has taken to give effect to the resolutions adopted at the previous meeting. The Irish press, both national and provincial, give extensive reports of the proceedings of the Council, and the agricultural mind of Ireland is aroused, quickened, and educated.

90. The Agricultural Board advises the Department on all questions connected with agriculture and other rural industries and, in so far as these are financed out of the endowment fund (explained in the next paragraph), it has a right to veto expenditure. In practice, therefore, the Board's power of veto enables it to alter the schemes of the Department and even sometimes to substitute its own. In ordinary circumstances the Board meets three or four times in the year; the Press is not admitted to its meetings.

91. The income of the Department is derived from two sources, parliamentary votes and an Endowment Fund. The expenses of central administration and of certain national institutions, and the salaries of the staff and of the inspectors, are defrayed by moneys voted by Parliament and controlled by the Treasury. The Endowment Fund, the annual amount of which available for agriculture is about £105,000, is made up from various sources such as the Irish Church Temporalities Fund and the Local Taxation (Ireland) Account, and its expenditure requires the concurrence of the Agricultural Board. In addition to this regular income, the Department has received special grants both from Parliament and from the Development Commissioners for afforestation, horse breeding, tobacco growing, fisheries, and research work.

92. The work of the Department has rapidly developed, which is largely due to the fact that it has covered the whole of Ireland with a network of Agricultural Committees which bring it into immediate touch with every part of the country. By the Act of 1889 the County Councils are empowered to raise a special rate for the purposes of agricultural and other rural industries, and to appoint a Committee of Agriculture for each County. This Committee, when appointed, becomes statutory and independent of the parent body. The Committee appoints its own officers, keeps its own accounts (which are separately audited by the Local Government Board), and makes its own schemes quite independently of the County Council, but subject to the approval of the Department, to which all minutes of the proceedings, schemes, and appointments must be submitted for sanction. Each County Committee has County officers, a County staff, and generally County institutions of its own—Secretary, instructors in agriculture, horticulture, poultry-keeping, bee-keeping, and in some cases in dairying and flax-growing. The smallest Counties have one instructor in each of the important subjects, and the larger Counties two or more of each class. In Cork, the largest county, the staff of the County Committee of Agriculture consists of a Secretary and assistant, five instructors in agriculture, four in horticulture and bee-keeping, two instructresses in poultry-keeping, two instructresses in dairying, and two instructors in flax-growing.

93. The Department, with the concurrence of the Agricultural Board, has allocated to each County from its Endowment Fund a grant which, with the proceeds of the agricultural rate levied in the County, forms the "joint fund," out of which the operations of the County Committee are financed.

94. The great increase of tillage achieved in Ireland since January last could not have been effected in so short a time had it not been for the complete touch of the Department with all parts of Ireland through the County Committees of Agriculture, and for the spirit and enthusiasm manifested by the officers alike of the Department and of the Counties.

95. In the case of all these bodies, the Council of Agriculture, the Agricultural Board, and the County Committees of Agriculture, the appointing authorities have the option of selection from among their own members or from outsiders in any proportion they please, and in all instances they have nominated considerable numbers of non-members in order to make available their knowledge, skill, and experience.

96. The constitution of the Irish Department of Agriculture appears to us satisfactory and we have no recommendation to make in respect of it.

97. The Congested Districts Board for Ireland does not call for any detailed comment since it has transferred to the Department of Agriculture its original powers in respect of agricultural instruction, live stock improvement, and forestry. Its operations in connection with the land are now mainly directed towards the re-settlement of estates, preparatory to their sale to the occupiers, by migration and the enlargement of small holdings, or by the re-arrangement of rundale or intermixed holdings.

98. *The Scottish Board of Agriculture.*—The Board of Agriculture for Scotland was created under the Small Land Holders (Scotland) Act, 1911. It consists of three persons, one of whom must be the Chairman and another the Commissioner of Small Holdings, and it complies with instructions issued by the Secretary for Scotland, who is President of the Board. It is charged with the administration of the Small Land Holders (Scotland) Act and certain other Acts, with the general duty of promoting agriculture, forestry, and rural industries, agricultural instruction organisations and co-operation, with the collection of statistics, and with experiments and research. It administers the Agriculture (Scotland) Fund, consisting of moneys voted by Parliament and certain other funds, and grants received from the Development Commissioners. The only duties in Scotland for which the Board of Agriculture and Fisheries in London remains responsible are those connected with the Survey Act, 1870, and the Diseases of Animals Act, 1894.

99. The Board was originally set up under an Act for the promotion of Small Holdings, but it is also responsible for the national agricultural interests of Scotland. In particular it has concerned itself very closely and directly with the promotion and development of Agricultural Education. The Board has established a seed-testing station under its own direct control, and it administers valuable schemes for the improvement of all sorts of live-stock by a system of premiums for approved sires. It has for some years past obtained from the Development Fund grants for the encouragement of milk-recording; and these grants are successfully administered by the Scottish Milk Records Committee under whose control upwards of 26,000 cows were before the war annually reported on with satisfactory results in the improvement of the yield of milk.

100. It appears to us to be an anomaly that the care of the agriculture of Scotland should form only a part of the duties of a minister charged with so many Parliamentary and administrative responsibilities as are attached to the office of the Secretary for Scotland, who discharges in Scotland the duties which in England employ the energies of at least eight Cabinet Ministers and Under Secretaries. It is no doubt true that the Departments for which the Secretary for Scotland is responsible are on a much smaller scale than the corresponding Departments in England, but the number and complexity of the problems with which he has to deal are just the same as those dealt with by this goodly muster of English Ministers, and we cannot suppose that the present arrangement makes adequate provision for agricultural administration even under the conditions which have hitherto obtained. In support of this view we quote the

statement of the only Secretary for Scotland, Mr. Mackinnon Wood, M.P., who has had experience in normal times of the working of the present arrangement:—

"I say quite frankly that I agree as to the desirability of having a Minister of Agriculture and Fisheries officially in Scotland. I am quite prepared to admit, and indeed assert, that it is quite impossible for one man to look after all the Departments and also this Department of Agriculture which never belonged to the Department except within the last few years, and which might probably occupy the time of any member of this House."

101. The case, however, for a reconsideration of the present arrangement is greatly strengthened by the new situation which has arisen with regard to the relation of the State to the agricultural industry. If that relation is to be one largely of partnership, and certainly involving constructive development by the departments of Agriculture of the conditions under which the industry is to be carried on, it is evident that the Minister in charge of a Board of Agriculture must have powers and responsibilities in respect of it, the discharge of which will demand his sole and undivided attention. We believe that no arrangement will be satisfactory which does not provide for the appointment of a Minister having the care of Scottish agriculture as his sole duty and being directly responsible to Parliament. Moreover, we are of opinion that agriculture in Scotland would be greatly strengthened by the establishment by statute of a National Council of Agriculture and of a Committee to advise the Board. In continuation of the work of the War Agricultural Committees there should be created statutory Agricultural Committees appointed by the County Councils,* which should be instructed to appoint to them, either from their own number or from outside, only persons engaged in agriculture or otherwise specially qualified in relation to it. When once appointed these Agricultural Committees should have an independent status like their Irish prototypes. A County Council should have the power to set up more than one Agricultural Committee within its area, and the Agricultural Committee should have power to form District Sub-Committees. These Agricultural Committees should undertake any duties entrusted to them by Parliament or delegated to them by the Board of Agriculture, and they should form the constituent body for the election of the National Agricultural Council. That Council should be composed of two representatives, elected by the Agricultural Committee or Committees, from each County Council area, and of persons representative of Scottish agriculture nominated to the Council by the Minister; so that, however, the total nominated members should not exceed one-third of the Council. The Minister should be an *ex-officio* member. The Council so composed should meet not less than twice a year under the presidency of the Minister to discuss questions of agricultural policy brought before it by him or by any of its members on due notice given. It should elect eight of its number to the Scottish Committee of Agriculture; the Minister should be an *ex-officio* member and should appoint three other members. Thus the Committee would consist of twelve persons and the Minister should preside. It should meet regularly every quarter and on special occasions when summoned. It should deal with any business brought before it by the Minister, but its members should be free to raise and discuss and pass resolutions on any subject of interest to Scottish agriculture. The proposed annual estimates should be laid before the Committee and be discussed by it before being laid on the table of the House of Commons, and, when so laid, they should be accompanied by a memorandum expressing the opinion of the Committee upon them. All resolutions of the Committee should be laid on the table of both Houses of Parliament if so directed by it.

102. *The Board of Agriculture and Fisheries for England and Wales.* The original Board of Agriculture was created by Royal Charter in 1793. It was not really a Government Department, though supported by Parliamentary funds; it was rather a society for the improvement of agriculture, and it died of inanition after the Parliamentary grant was withdrawn. It was dissolved in 1822. The present Board, the potential importance of which cannot easily be over-estimated, is an infelicitous example of the results of growth so dear to many Englishmen as opposed to design. It was revived nearly 30 years ago, and charged with the administration of a miscellaneous assortment of Acts of Parliament connected with agriculture or with the land, and with the collection of the statistical information which had previously been part of the duties of the Board of Trade. At a later stage Fisheries were tacked on to it. It was thus designed for purposes of administration and police only. That a Government Department should be constructive and endeavour directly to stimulate or promote the development of an industry was a conception foreign to the views of the function of the State which then prevailed. With the change of public opinion the Board has partially and imperfectly accepted a more active view of its duties, but, as a result of the original conception under which it was founded, it has not been able to attain either the status or the staff or the organisation appropriate to the constructive work which a modern Department of Agriculture is called upon to perform.

103. The Animals Division dealt only with the administration of the Contagious Diseases of Animals Acts, the Dogs Act, and similar police orders, and with the veterinary investigations necessitated by this control. It is only recently that the Board has been able to institute measures to bring about the improvement of live stock. Similarly, the Land Division was charged with duties regarding the sale of the land of English universities and colleges, with the administration of the Land Improvement Acts, tithe rent charge, and the control of commons and similar questions. Latterly it was called upon to administer the Small Holdings Acts, but hitherto it has had no power to deal with the cultivation of land generally, or food production

* Since this paragraph was drafted the Board of Agriculture has been empowered under Sec. 11 (2) of the Corn Production Act to authorise approved bodies to exercise any of the powers of the Board under Part IV of that Act, with a proviso that the bodies so authorised shall in the first instance consist of persons who are acting as members of the County War Agricultural Executive Committees. This enactment, therefore, provides a natural link between the Statutory Committees we recommend and those already in existence.

in its widest sense. The difficulties of the Department have always been increased by the fact that it has been housed in some dozen distinct sets of scattered premises, and no proper organisation can be achieved until the Office is gathered in one common building. In these circumstances the officers of the Board of Agriculture and Fisheries deserve great credit for the admirable work which they have done in the face of every difficulty and discouragement.

104. Our conception of the Board of Agriculture is as of a great department of State charged with the care of agriculture in its widest sense, and with the promotion of the welfare of rural as distinct from urban life. Its duty should be to assist and stimulate agriculture by every possible means as a basic national industry, to promote the production of food in England and Wales, and to regard the increased prosperity and happiness of the rural population as its special care. It should also encourage and co-operate with voluntary organisations which exist for the promotion of these objects.

105. We do not think that it should be charged with any urban responsibilities, and, therefore, we do not recommend that either the Land Valuation Department of the Inland Revenue or the Land Registry should be transferred to it. The subject of Fisheries does not come within the scope of our reference, but we know enough about it to know that it is a national industry capable of great development. There would seem to be a strong case for a Fishery Board for Great Britain, responsible for policy and research, and with a Minister at its head representing it in Parliament. This could be made quite compatible with localised administration. If this solution should prove impracticable, then we agree that it is for the best interests of the English and Welsh fisheries that they should remain associated with the Board of Agriculture rather than with any other Department.

106. The first thing necessary after the war will be to unite the whole Department under one roof. Proper administration is quite impossible when a Department is scattered into a dozen separate houses in half a dozen different streets. The Minister in charge of the Department should be styled, as now, President of the Board of Agriculture, but his salary and status should be raised to an equality with that of the President of the Board of Trade and the President of the Local Government Board. The staff must be increased and strengthened; especially it needs the infusion of a proper proportion of Class 1 of the Civil Service; those members of the staff, from whom expert, or at any rate practical, knowledge is required, should be selected by a combination of the systems of nomination and examination; the First Division men, who enter through the Civil Service examination, should spend at least two out of the first five years of their service out of London; it is in our opinion important that they should get an early insight into the working of agricultural administration, either on the provincial staff of the Department or attached to the staff of local authorities. The provincial staff of the Department requires reorganising. Before the war the work of most of the provincial officers covered an impossibly large area, but many fresh appointments have since been made in connection with the campaign for food production; in some cases officers may be made responsible for all the work of the Board in a given geographical area; in other cases the work of officers must be specialised. In this paragraph of our Report we merely indicate the fact that the staff of the Department must be permanently expanded above its pre-war strength. In subsequent paragraphs we shall explain what the work is which in our opinion it should do. It may, however, be convenient in this place to draw attention to the fact that the work of other Departments of the State must affect the welfare of the rural population and the state of agriculture. This is particularly true of the Board of Education, and of the Local Government Board in respect of the housing problem. It seems to us necessary that in dealing with rural housing the Local Government Board, and in dealing with elementary and secondary education in agricultural districts the Board of Education, should work in close touch with the Board of Agriculture. The organisation of the Department in London must be remodelled in the light of experience and in consequence of its increased responsibilities. There is, however, one aspect of this re-organisation to which we wish to draw special attention. It will certainly be necessary to create a Division charged with the management of all agricultural properties permanently or temporarily placed under the control of the Board of Agriculture. But the President of the Board, in his capacity of a Commissioner of Woods and Forests, is already responsible for the management of the agricultural properties of the Crown. We think that it would be a good plan to amalgamate the Agricultural side of the Office of Woods and Forests with the Management Division of the Board of Agriculture, and to put both sets of agricultural properties under the same control.

107. As in Scotland, so in England and Wales, the War Agricultural Committees of the County Councils* should be replaced by statutory committees, which, when constituted, should have powers of action independently of the County Councils, as in the case of the corresponding Committees in Ireland and of the Education Committees in England. They should be composed of men and women who are not members of the County Councils as well as of members of the County Councils, but in both cases alike it is essential to secure the services of persons with practical knowledge of agriculture or some other branch of rural economy, or representative of some special rural interest rather than of the different districts of the County. These Agricultural Committees should absorb the work of the existing Small Holdings and Allotments, Contagious Diseases of Animals, and Agricultural Education Committees (or Sub-Committees) of the County Councils, and of the Live Stock Committees established by the Board of Agriculture in various counties within the last few years, (all of which Committees should be abolished), and they should undertake any other duties entrusted to them by Parliament or delegated to them by the Board. A County Council should have the power to set up more than one Agricultural Committee within its area, and the Agricultural Committee should have power to form District Sub-Committees.

108. The Agricultural Committees of England should elect two representatives from each County Council area to serve on the English National Agricultural Council, already suggested

* See note to paragraph 101.

in paragraph 59 of Part I. of this Report. The President of the Board of Agriculture should nominate to it persons representative of all agricultural interests, so that, however, the total number of nominated members shall not exceed one-third of the Council. The President and the Parliamentary Secretary of the Board of Agriculture should be ex-officio members. The Council so composed should meet at least twice a year to discuss questions of agricultural policy brought before it by the President, or by any of its members on due notice given, and the President or, in his absence, the Parliamentary Secretary should preside over its meetings.

109. There is already in existence a Welsh Agricultural Council which is not statutory but does useful work. We recommend that this Council should continue to perform the functions of a National Agricultural Council for Wales, and that it should be made a statutory body for the purpose of advising the Board of Agriculture in regard to agricultural matters in Wales, to which the Board may delegate certain powers and functions relating to local administration. The Council should consist as at present of two members elected by each Agricultural Committee in Wales and Monmouth and the agricultural departments of the two Colleges, with not more than twelve members nominated by the President of the Board of Agriculture. The President and the Parliamentary Secretary of the Board of Agriculture should be ex-officio members, and the President or, in his absence, the Parliamentary Secretary should preside over its meetings. All the local work of the Board of Agriculture in Wales should be under the charge of a Principal Officer of the Board, who should be assisted by an adequate staff and have his headquarters and office at a centre in Wales convenient for North and South.

110. We recommend also that there should be established an Agricultural Committee for England and Wales, composed of the President and Parliamentary Secretary of the Board of Agriculture, eight members elected by the English Agricultural Council, two members elected by the Welsh Agricultural Council, and three members appointed by the President of the Board of Agriculture. The Committee should meet regularly every quarter, and on special occasions when summoned. The President, or in his absence, the Parliamentary Secretary, should preside. It should deal with any business brought before it by the President, but its members should be free to raise and discuss and pass resolutions on any subject of interest to agriculture or rural life in England or Wales. The proposed annual estimates should be laid before the Committee and discussed by it before being laid on the table of the House of Commons, and when so laid they should be accompanied by a memorandum expressing the opinion of the Committee upon them. All resolutions of the Committee should be laid upon the table of both Houses of Parliament, if so directed by them.

111. The National Agricultural Councils for Scotland, England, and Wales, and the Agricultural Committees for Scotland and for England and Wales, should be appointed afresh after every General Election of the County Councils; and the members selected, whether by the County Councils, or by the Presidents of the Boards of Agriculture, or by the National Councils, should hold office until the next General Election of the County Councils.

112. If our recommendations are adopted there will be in existence in the United Kingdom four national Agricultural Councils, representing agriculture in Ireland, Scotland, England, and Wales. We suggest that it would be of great advantage to agriculture if delegates from these councils, say, thirty for England, and five for Wales, and ten each for Scotland and for Ireland, were to meet in conference once a year. The conference should never be held two years running in the same country, but in each country in turn, and the Minister responsible to Parliament for the agriculture of the country in which the conference is held should act as its President for the occasion. An officer of one of the departments of agriculture should be permanent Secretary of the Conference, and responsible for the custody of its records. We believe that the result of such conferences would be to diminish the chances of friction between the three Departments, to encourage the pursuit of a common policy, and to inform public opinion of the special difficulties and needs of agriculture and of its magnitude and importance as an industry. It would be a great encouragement to agriculture if His Majesty the King would graciously consent to become permanent Patron of the Conference of the combined councils.

AGRICULTURAL INSTRUCTION AND RESEARCH.

113. *Ireland.*—Ireland possesses a carefully thought out system of agricultural instruction which is worked partly by the Department of Agriculture itself and partly through the Agricultural Committees of the County Councils.

114. Directly under the control of the Department are the Royal College of Science for Ireland, where there is a faculty for agriculture, and where the experts and instructors of the Department are trained, and the Albert Agricultural College, where a combined course of instruction is provided in technical and practical agriculture suited to persons who will later take up the management of the larger farms, and certain training schools for teachers and agricultural stations. Separate instruction is given to women students in the Munster Institute and in the Ulster Dairy School in butter-making and poultry-keeping. Horticulture, bee-keeping, forestry, flax-growing and domestic economy are treated as special subjects. Great success has attended the intensive instruction given by specially selected members of the Department's staff to groups of occupiers settled for the first time on new land by the Congested Districts Board. Moreover, there are in every county one or more organisers, officers of the Department, who have been trained in the practice as well as in the science of agriculture and carefully taught how to teach, and who are never allowed to rust, but are assiduously kept in contact with the Department and its institutions and brought into periodic conferences with one another.

115. The local schemes of agricultural instruction are administered through the Agricultural Committees of the County Councils, each of which has its own staff of officers, whose appointment must, however, be approved by the Department. Each committee annually draws up a scheme which becomes operative when it has received the approval of the Department. These schemes cover all branches of agricultural education for both sexes, and include direct forms of encouragement in the improvement of agriculture and live stock breeding and dairy practice. The live stock schemes generally provide for improvement by encouraging the breeding and introduction of high-class stallions, sows, and boars, and their distribution throughout the country for mating with the ordinary stock.

116. Quite deliberately the Department and the Agricultural Committees alike have preferred a system of temporary winter schools, to one of permanent institutes and colleges, for the instruction of farmers' sons. Very many of these are held at various local centres every winter season throughout the length and breadth of Ireland. They usually last for sixteen weeks, and the students attend from their fathers' farms on three or four days of each week. It is claimed for this system that it is much cheaper than the institute system, and that it influences a far larger number of young men and boys than the institute system could possibly do.

117. So far as we can judge, the Irish system of agricultural instruction is admirably adapted to the peculiar circumstances of Ireland, and we have no change to recommend in it. The Irish Department of Agriculture would like to see a greater bias than is at present given towards country life in the teaching of the elementary schools. In its own sphere of responsibility it wishes to receive statutory power from Parliament to prevent the use of unsound sires. We sympathise with both these aspirations, but particularly we wish to endorse and support the claim of the Department for a liberal provision for scientific research. There can be no doubt but that the work of the Department suffers from a lack of such provision. It requires an institute at which practical problems of special interest to Irish farmers can be investigated, and we concur with the Department in thinking that such an institute, properly staffed and equipped, would bring a direct and speedy return to the national resources by the improvement which it would effect in Irish Agriculture, and by the increase of food production which would surely follow.

118. *Scotland.*—Under the Scotch Education Department courses of instruction are arranged at the four Teachers' Training Colleges which qualify teachers to give elementary rural instruction in the rural schools, and there are also a number of special vacation courses at which the schoolmasters are given instruction during their holidays. A certain amount of rural teaching is given in many of the elementary schools to boys from 12 to 14 years of age. In addition, a three years' continuous course of instruction had been arranged just before the outbreak of war to qualify older boys and girls from 15 to 17 years of age to enter the classes of the Agricultural Colleges.

119. Apart, however, from these modifications of school education, agricultural instruction in Scotland is controlled by the Board of Agriculture and is administered through the agricultural colleges in Edinburgh, Glasgow and Aberdeen, each of which serves a defined area, and which together cover the whole of Scotland. In each of these colleges a complete three years course of instruction is given, qualifying for the B.Sc. degree and also for the examinations for the National Diploma in Agriculture. Shorter courses of a more immediately practical character are also conducted. There is a separate dairy school for Scotland, at Kilmarnock, administered by the Governors of the West of Scotland Agricultural College.

120. At the Universities of Edinburgh and Aberdeen are Chairs of Agriculture, which are associated with the work of the Colleges of Agriculture; and at the University of St. Andrews there is a Lectureship in Agriculture and Horticulture. These, however, are independent of the Education Department and of the Board of Agriculture, and are controlled by the Courts of the Universities to which they respectively belong.

121. The County Councils of Scotland do not undertake direct instruction in agriculture. The residue grant, from which the County Councils formerly defrayed the costs of agricultural education, was transferred in 1908 to the Education (Scotland) Fund, and an annual payment from this Fund is made to the Board of Agriculture towards the maintenance of the agricultural colleges, whose work is further supported by grants from the Agriculture (Scotland) Fund (controlled by the Board of Agriculture) and from the Development Fund.

122. It thus appears that the system of agricultural education in Scotland is very highly centralised in respect both of finance and of administration. The whole control, not merely of the instruction given in the colleges, but also of all the county or extension work carried out in the various localities, is vested in the colleges; and they, in turn, are dependent for their incomes upon the Board of Agriculture for Scotland.

123. Each of the three colleges employs, in addition to its central staff, a large number of extension lecturers, working in county areas, who give single lectures and conduct longer or shorter courses of lectures on general agriculture, attend markets, and advise farmers. Dairying and poultry keeping are taught by a special staff of lecturers and instructresses. It is increasingly recognised that the instruction of farmers, and especially of the smaller farmers, must be effected much more largely by properly systematised courses in their own districts than at the colleges whose courses are necessarily more elaborate and attendance at which must almost always involve absence of the student from his home and from the work of the farm.

124. We believe that the existing system is one which has done excellent work and which is capable of doing still better work in future, particularly in view of the increased disposition of farmers to take advantage of educational opportunities. No fundamental alteration of

policy is required, although it is evident that so highly centralised a system must continuously and increasingly require the active participation in its management of farmers, who are the persons chiefly concerned with its results, and that the vitality and success of local developments of its work must especially demand the enlistment of local sympathy and interest. We suggest for consideration the advisability of giving adequate representation on the governing bodies of the colleges to the Agricultural Committees of the Counties which we have recommended should be formed. What appears to be necessary is a growth of the work of the colleges in the directions in which they have recently been moving, and an increase of the funds devoted to this work. A large addition to the staff of lecturers and instructresses is required; indeed, no limit should be set to this except that which will be found in the degree of opportunity which presents itself for their useful employment. We believe that the work both of county lecturers and of instructresses will greatly gain in influence and value if it be aided by demonstration areas for tillage, and by corresponding facilities in connection with dairying and poultry-keeping. Winter courses should be provided for the sons of farmers and the farm servants; and, in devising and developing these, regard should be had both to the experience of farm institutes in England and to the example of the Irish winter schools. It is most desirable that instruction of a higher type than that which is furnished in any of the existing Colleges should be provided with the special object of training research students.

125. We are strongly convinced of the desirability of giving to farmers and, if possible, through the colleges and their county work, the assistance of the most highly trained specialists in agricultural science for purposes of consultation and advice. We believe that much larger use would be made of assistance of this kind than would have been the case even a few years ago.

126. But, above all, a large additional grant is required for the development of research work, especially in connection with live stock and with the varieties of crops suited to Scottish agriculture. As in the case of Ireland, so in that of Scotland, we regard expenditure on research work as surely productive; the grants should not only be liberal but constant over a long period and not subject to frequent revision. We strongly recommend that for all these purposes, but especially for that of research work, the Scottish Board of Agriculture should receive the necessary funds. We shall have occasion to revert to the case of Scotland when making some of our corresponding recommendations for England and Wales. Some of these will be equally applicable to Scotland, but it will be convenient to deal with them for all three countries in the same paragraphs.

127. *England and Wales.*—A controversy of some duration between the Boards of Agriculture and Education as to their respective responsibilities in the sphere of agricultural instruction was closed in January, 1912, by an agreement between the Presidents of the two Boards, which was embodied in the form of a joint minute. The effect of the agreement was that all agricultural education, except that provided in elementary and secondary schools, was to be superintended by the Board of Agriculture, while that provided in elementary and secondary schools was, of course, to be supervised by the Board of Education. We have no doubt whatever but that this division of responsibility is the best which could be devised and that it should on no account be disturbed. The only fault we have to find with it is that it rests on no surer basis than an agreement between two colleagues. We recommend that the arrangement be regularised without delay by an Order in Council under Section 4 of the Board of Agriculture Act, which provides that it shall be lawful for His Majesty "from time to time by order to transfer to the Board of Agriculture such powers and duties of any Government Department as are conferred by or in pursuance of any statute and appear to His Majesty to relate to agriculture or forestry, and to be of an administrative character."

128. The Board of Education aims at securing in rural elementary schools a general education suited to the ages of the children, but so developed that full use is made of the school environment in the instruction. It definitely encourages the adoption of a limited syllabus in arithmetic, geography, and history, in order that time may be devoted to "nature study and practical subjects suitable for country children." But the determination of the curriculum for a school rests with the Local Education Authority; the Board only retains power to approve or disapprove after considering the circumstances of the case. For instruction in gardening the Board pays a special grant of 4s. a head per annum, the class not to exceed twenty in number nor (as a rule) to include children, girls or boys, under eleven years of age. In 1913-14 over 3,000 schools gave gardening instruction to over 66,000 scholars, but while some agricultural counties have taken up gardening keenly, others have done very little with it. Other subjects now being developed in rural schools are handicraft for boys and domestic work for girls. But the main difficulty in developing rural schools on rural lines lies with the teachers. Many small country schools are staffed only with mistresses, and the older type of schoolmaster was trained at a time when the ideal of education was quite different. Some attempts have been made to attack this problem by including rural science and gardening among the subjects which may be taken for the certificate, but they have met with very indifferent success because teachers can choose their own lines of training, and the salaries and prospects in the rural schools are so unattractive that the great majority look to employment in urban areas as their goal and will not accept training for rural schools.

129. Evening schools in agricultural districts are attended mainly by young labourers, village artisans, and the sons of small holders and working farmers. Their aim is to continue the day school education of the students and an attempt is made to give a rural bias to the teaching of each subject, but their curriculum usually includes also a practical subject such as rural science or woodwork. It cannot, however, be said that these schools are, generally speaking, a success. The main difficulties in the way of developing the work of rural evening

schools are the scarcity of suitable teachers, the reluctance of most boys on leaving the day school to attend school at all until two or three sessions have passed, the indifference of parents and employers, and the tired condition of the students after a day's work in the open air.

130. In order to be eligible for the Board's grant a Secondary School must have its curriculum and time-analysis approved by the Board, which endeavours by its regulations to assist the case of schools in which the work has a rural bias. In 1913 there were 34 Secondary Schools providing rural courses, and it is the opinion of the Board that many others in country districts would gain in usefulness if they substituted a ruralised curriculum for that usually followed. But the difficulties are formidable, the existing examinations are unsuitable, the staff possessing the necessary qualifications is not easily found; there is a general want of belief in the value of a ruralised curriculum. As a matter of fact, there is very little tendency for boys from these few Secondary Schools, which are ruralised, to pass on to agricultural colleges or to the universities.

131. In the year 1888-89 the Privy Council had made certain grants of a tentative nature in aid of agricultural education, and when the Board of Agriculture began its work it continued making grants of the same type. The allocation of the Residue Grant (Whiskey money) for Technical Education in 1890 provided county authorities with funds for the development of local education work, and as a consequence the Board thereafter adopted a different policy, which aimed at building up collegiate institutions in different parts of the country. These institutions, as they were established, acted as centres for all the educational activities of a particular area. Within the colleges instruction both of an elementary and advanced type was provided, while outside them college teachers were employed in lecturing to farmers, conducting experiments, supervising dairy instruction, and generally in promoting in all possible ways the spread of education among agriculturists. The aim of the Board was to induce all Local Education Authorities in England and Wales to associate their work with one or other of the agricultural colleges. While they succeeded in securing some measure of co-operation in 44 administrative counties, 18 counties remained outside the "sphere" of any college, and either made their own arrangements or provided no form of agricultural education. In 1905 a powerful movement was organised for the purpose of securing greater State aid for agricultural education, and a Departmental Committee was appointed, with Lord Reay as chairman, in 1907, which examined over 100 witnesses representing all classes interested in those forms of education which the Board of Agriculture had fostered, and reported in 1908.

132. But the great opportunity of agricultural education and research came with the passing into law of the Development and Road Improvements Funds Act, 1909-1910. As soon as the Development Commissioners were appointed the Board of Agriculture proposed to them a general scheme of agricultural research, which, after full consideration and some modification, was finally approved by the Commissioners, and on August 22nd, 1911, the Board had the satisfaction of hearing from the Treasury that a sum of approximately £50,000 per annum had been granted for the purposes for which the original application had been made.

133. The main features of the scheme as approved by the Treasury were:—

- (1). A grant which provided 36 scholarships worth £150 per annum; each scholarship to be tenable for 3 years.
- (2). Grants of the total amount of £30,000 per annum were provided for twelve institutions with the view of strengthening existing departments or creating new centres for the investigation of those branches of science which most closely affect agriculture.
- (3). A sum of £3,000 to be distributed in aid of researches not provided for under (2) on the recommendation of the Board's Advisory Committee on Agricultural Science.
- (4). A sum of £12,000 for developing advisory or consultative work for farmers, at 12 institutions to be associated with 12 distinct areas in England and Wales.

134. The main purpose of these advisory grants may be briefly indicated. Experience had shown that instruction of the ordinary type does not exercise so direct an influence on agriculture as might be expected. It is of great value in aiding young people and the less experienced, but as a rule it is too elementary to appeal to an experienced farmer. He meets with difficulties in his work which cannot be answered off-hand even by a well-trained scientific man. Investigation is necessary, and sometimes prolonged investigation may be both necessary and desirable. It had not been possible to give much time to solving the difficulties of individuals in the past, and the new effort aimed at creating consulting staffs at certain universities or colleges, whose business would be to investigate such difficulties as arise in practical agriculture, and especially to deal with the difficulties of the best farmers. Careful study and considerable expenditure on solving the difficulties of an individual may seem to be out of place at a public institution, but it must be remembered that the "ailments" of a farm are not purely of interest to an individual. If a good farmer has a difficulty, and that difficulty is solved, he becomes more successful, and his neighbours note the fact and copy his practice. The practice of agriculture is in fact developed chiefly by imitation. A skilful farmer may soon increase the prosperity of a parish, for, though farmers may be slow to listen to oral instruction, they are quick to see that a change in practice enables a neighbour to grow better crops. The principle which should be adopted by the administrator intent on increasing the production of a community is that most attention should be given to the wants of those who have the reputation of being the most skilful farmers. These men are usually the most ready to learn, but they must be convinced that the advice offered them is worth having. They have too often been disappointed in the past.

135. The Research Institutes established under this scheme were:—

- (a) Plant Physiology.—Imperial College of Science and Technology.
- (b) Plant Pathology, mycological side.—A special Department of Kew.
- (c) Plant Breeding.—Cambridge University and the John Innes Institution.
- (d) Fruit Growing.—The main centre at the Fruit and Cider Institute at Long Ashton (in connection with Bristol University) and subsidiary stations situated in Kent, the Wisbech district of Cambridge, and Worcestershire. These subsidiary stations consist of trial gardens worked on a plan arranged at the Central Institute, but under the supervision of the colleges in whose area they are situated.
- (e) Plant Nutrition and Soil Problems.—Rothamsted Experimental Station.
- (f) Animal Nutrition.—Cambridge University.
- (g) Animal Breeding.—Cambridge University.
- (h) Animal Pathology.—The Royal Veterinary College and the Board's Veterinary Laboratory.
- (i) Dairy Investigation.—The Midland Dairy Institute.
- (j) Agricultural Zoology.—The Universities of Birmingham and Manchester.
- (k) Economics of Agriculture.—Oxford University.

136. In 1912, when the supervision of agricultural education was finally assigned to the Board of Agriculture, the Board of Education were discussing with the Development Commissioners a scheme for the provision of farm institutes. The Board of Agriculture carried on these negotiations, and as the policy of the Board and of the Commissioners was practically identical, there was little difficulty in reaching a satisfactory arrangement. This arrangement was set forth by the Board in the following memorandum:—

"1. The Board of Agriculture and Fisheries will be prepared to make grants from money placed at their disposal by the Treasury from the Development Fund for the purpose of aiding Local Authorities in England and Wales to extend and systematise agricultural education in their districts.

"These grants will be in the form of:—

- (a) Contributions towards the expenses of the Advisory Councils which it is proposed to set up.
- (b) Contributions towards the cost of providing and maintaining buildings and land for farm schools and farm institutes.
- (c) Annual contributions towards the cost of new and additional work at, or in connection with, farm schools and farm institutes.

"2. The Board will invite Local Education Authorities and the Governing Bodies of Centres for Higher Agricultural Education to form Advisory Councils in such areas or provinces in England as may be decided upon, and to nominate representatives thereon. In order to secure the representation on the council of all agricultural interests, the Board will also nominate members. The Council, when formed, will appoint its own chairman and vice-chairman.

"3. The Council will be asked:—

- (a) To consider the needs of the area or province as a whole in regard to agricultural education, and the schemes prepared in respect of the several counties or groups of counties, and to advise the Local Education Authorities thereon, with a view to maintaining a close connection between schemes for providing agricultural education in the counties, and the work of the approved centre or centres for higher agricultural instruction in the area or province;
- (b) To advise as to the co-ordination of the provision of technical advice for farmers, both through the medium of the centre for higher agricultural education and through the agricultural staffs of the counties;
- (c) To assist in the preparation of schemes of agricultural experiments and demonstrations to be carried out jointly by the counties within the area or province;
- (d) To assist Local Education Authorities in obtaining such part-time instructors as they may require in order to enable such instructors to be wholly and exclusively employed within the province;
- (e) To advise Local Education Authorities as to the need for further farm schools and institutes as centres for agricultural education of a less advanced type than that provided at the Centre for Higher Education.
- (f) To report to the Board on the state of agricultural education in the area or province, with special reference to the above points."

137. The Provincial Councils formed under this scheme have their headquarters at:—

- Armstrong College, Newcastle-on-Tyne;
- Leeds University;
- Midland Agricultural and Dairy College, Kingston-on-Sear;
- Cambridge University;
- South-Eastern Agricultural College, Wye;
- University College, Reading;
- Seale-Hayne College, Newton Abbot;
- Bristol University;
- Harper Adams College, Newport, Salop;
- University Colleges, Aberystwyth and Bangor;

and the counties of England and Wales (except Lancashire, Cheshire, and Glamorgan, which for divers reasons have not adopted the scheme), are grouped round one or the other of them.

County Administration.

138. The direct administration of the scheme in each county is entrusted to the agricultural Education Committee of the County Council where there is one, or in default of one to the Agricultural Education Sub-Committee of the Education Committee, and the intention of the Board has been to secure to this committee or subcommittee a definite income made up from—

- (a) Rates;
- (b) Residue grant (or whiskey money); and
- (c) The Board's Parliamentary vote or grant from the Development Fund.

But, as a matter of fact, the adjustment of the finance of the scheme has been a matter of extreme difficulty owing to the very different proportions in which the counties have devoted their share of the residue grant to agricultural education, to the reluctance of some counties to spend any money out of the rates on agricultural education, and to the fact that by the provisions of the Development Act the Development Commissioners are precluded from aiding any work in existence when the Act came into operation. The unexpected effect of this provision was that a county, which had been in the van of agricultural progress and had already when the Act was passed reached the normal limit (2½) of the higher education rate which the law allows it to levy, could receive no benefit from the Development Fund, whereas a county which up to that time had altogether refused to do anything for agricultural education could largely profit by the Development Fund if it chose to amend its ways.

139. The officers of the Board of Agriculture exercised an unwearied patience and much ingenuity in negotiations protracted over many months in their endeavour to overcome these financial difficulties. The result is known as the "partnership scheme," the regulations embodying which have only come into operation since the outbreak of the present war. It is not possible yet to state whether the problem has or has not been solved.

140. Such is the scheme of agricultural education existing to-day in England and Wales. The research work has been well started; higher education is well provided for by twelve agricultural colleges, and the need for more immediately practical instruction of a lower type should be met by the winter schools for which provision has been made under the "Farm Institute" grant from the Development Fund. As the education of the greater part of the agricultural community depends upon these winter schools and farm institutes, their development is of the utmost importance to the agriculture of the future. The obstacle to their growth consists in the fact that the County Council in each county is alone able to set them up. The central authority, the Board of Agriculture, can only assist by a grant in aid; it can put no pressure on a County Council which declines to provide any education of the kind. In some purely agricultural counties, where this education is most needed, the County Councils have incurred no expenditure whatever on agricultural education. Clearly this is a very weak spot in the system.

141. The live stock schemes of the Board for the improvement of breeds by giving premiums to light and heavy horses, bulls, and boars, have already done excellent work and will do much more if given sufficient support and made permanent. The effort to establish milk recording societies has not been equally successful though established on sound lines. We shall revert to this subject when we make our proposals for the development of agricultural instruction under the Board of Agriculture.

Agricultural Education : Board of Agriculture.

142. As will have appeared from the account we have given, the system of agricultural education in England and Wales is quite different from the Irish or the Scottish, and in our judgment it is less effective. The reason for this is that too little power of pressure is given to the Board of Agriculture, and too much opportunity for inaction to the County Councils, and the explanation of this unfortunate state of affairs is the financial basis on which the system rests, partly rates and partly votes.

143. Agricultural education is no more a county matter than agriculture is the particular interest of isolated groups of farmers or smallholders. While agriculture itself was neglected, it was too much to hope that agricultural education should be regarded as a matter of national concern. But now that this industry has been brought back by the war to its rightful place in the national economy the education of those engaged in it can be hopefully approached. We recommend, therefore, that the responsibility for agricultural education in England and Wales be definitely placed on the Board of Agriculture, which should take over all the staff and farm institutes from the County Councils, and that it should no longer be permissible for a County Council to hinder in any county the full development of the system of agricultural education adopted by it. We recommend that the whole charge for agricultural education in England and Wales be borne by the Imperial Exchequer and that none of it be placed upon the rates, and that the County Councils be allowed to apply that portion of the Residue Grant hitherto devoted to agricultural education to the cost of the new services, which we propose in this Report should be discharged by the Agricultural Committees, or to any branch of higher education. We justify this recommendation by the fact, proved before a whole series of Royal Commissions and Committees, that the ratepayers of England and Wales, and especially the ratepayers on agricultural land, bear an unfair share of the burden of national services. We shall refer to this matter again in the paragraphs dealing with Local Taxation, but we justify the recommendation here made as a convenient and sound method for the partial discharge of the admitted and proved debt of the taxpayer to the agricultural ratepayer. Agricultural education must be pressed forward in every county as a fundamental part of a national agricultural policy; the nation can no longer afford to incur the risks of local and shortsighted inaction;

it must therefore give full powers to the President of the Board of Agriculture and put the responsibility on his shoulders. It follows, therefore, that the public exchequer, and not the local rates, must bear the financial burthen.

144. The President of the Board of Agriculture will not, however, be acting only with the advice of the staff of his department. If our recommendations are adopted, he will be acting with the advice of a representative Committee, and after hearing the opinions of a National Council. He will also in every county have an Agricultural Committee through which and in concert with which he can act, if he so chooses, and we recommend that in the case of all counties, the Councils of which have spent money freely on agricultural education and developed great interest in it, he should so act, whether they have or have not hitherto fallen in with the provincial scheme of the Board of Agriculture. It would be deplorable if in these counties the local interest aroused in agricultural education were allowed to droop, or if the fullest use were not made of those members of the local authorities whose enthusiasm has been aroused, or if their opinions were not treated with the greatest respect. In those counties the Agricultural Committees should, under the new system, be treated as partners in the work, although they will no longer be spending a county rate or devoting any portion of the Residue Grant to agricultural education. It would not be advisable that the President of the Board should show the same deference to the opinion of the Agricultural Committees of those counties which have hitherto failed to show any real appreciation of the importance of agricultural education, but as the great value of the work done manifests itself so surely will public opinion in those counties change, and it will then be wise policy for the President more and more to enlist the services of these Agricultural Committees in this great national work.

145. No review of the present state of agricultural education in England and Wales would be complete without a reference to the work which is being done at the two old universities. At Oxford a school of Rural Economy has been inaugurated by Professor Somerville, and at Cambridge a fully equipped School of Agriculture has been established under Professor Wood and Professor Biffen. Both universities work in with and assist the general scheme of education of the Board of Agriculture. We shall return to this subject in a later paragraph.

146. *Wales.*—In no part of the country is there greater zest for agricultural education or a better promise of good results than in Wales. The evidence given before us by our colleagues, Mr. C. Bryner Jones, M.Sc., and the evidence tendered to the Royal Commission on University Education in Wales on behalf of the Welsh Agricultural Council, show the excellent work done, and the great need there is for further developments and increased grants. We recommend that, in all matters connected with agricultural education in Wales, the Board of Agriculture should work with and through the Welsh Agricultural Council.

England and Wales, and Scotland.

Elementary and Secondary Education in Rural Districts: Departments of Education.

147. Perhaps there is no problem among all those which confront the Commonwealth of British nations more urgent than how to increase the annual output of skilled cultivators and workers on the land. We need a great output of skilled cultivators and workers on the land; but they must also be contented, because instructed and prosperous, citizens, and this great work must be begun in the elementary school.

148. There is a widespread feeling that hitherto, though fortunately in recent years in a decreasing degree, there has been, in the influence of the elementary school, a distinct bias against agricultural work and, indeed, against the country life. The greatest prizes in material wealth will always be found in the towns, and the country does not seem at present to offer as much intellectual stimulus, or as much excitement, or as many amusements as the city, but the education hitherto given to country children has never yet set fairly before them the actual attractions and advantages of the country life; it has tended to influence them away from the land rather than to fit them for a career on the land. We shall set forth in later paragraphs how we think that this can be remedied.

149. We believe that, if the recommendations of our Report are made the basis of a permanent national agricultural policy, agriculture and the rural arts attendant on it will offer a secure and happy livelihood for country workers, and open out a wide field of important and interesting occupation, and so of responsibility and advancement, for the cleverest country children. The present generation would indeed be surprised if they could foresee what science and brains will do for agriculture in the next half century. The children of the rural elementary schools must be given the same general education as the children of the urban schools, but it must not be an education which appeals only to one side of their mental activities. That instruction should be from the concrete to the abstract is a common maxim, but it can only be effected if manual work is given its proper place alongside of books both to boys and girls. The more education is developed on these lines the more interested in it will become their parents and the future employers of the pupils.

150. In expressing these opinions we know that we are giving our support to the policy of the Departments of Education, whose province and not ours it is to lay down the details of the system.

151. But we shall not be contented if the country school merely ceases to be a lukewarm friend to the country life. We know that it can be made a centre of inspiration in the hands of a gifted and devoted teacher, where the scales will fall off the eyes of many children and they will see the full glory and beauty of the country life. The animals and plants and the processes of nature will become full of meaning to them, the difficulties and possibilities of agriculture and its immense importance in the national economy will be revealed to them, their

sense of social duty will be developed, and they will learn that work on the land is in reality the least monotonous and most interesting of all work and how much more can be made of their parish than has ever yet been made if each girl and boy, each woman and man, will do their part.

152. We hope that the rural elementary school will be expanded in the direction we have indicated, and that the fatal gap between leaving school and adolescence will be bridged by continuation day schools, where the process of education may be maintained.

153. Hitherto evening schools in the country districts have, generally speaking, been unsuccessful, but the continuation day school will, in some cases take the place of, and in others prove the making of, the evening school, because there will henceforth be no break in the process of instruction, and therefore no lapse of knowledge or set back in intelligence. If continuation day schools are made compulsory, we think that agriculture should be made an alternative subject in the later stages.

154. Winter schools under the Boards of Agriculture, to which we shall again refer in a later paragraph, will be established to fulfil a distinct function from evening schools, and we will only point out here that the technical advantage of winter schools over evening schools is that they take place in the day time, and supplant so many hours work, instead of in the evening, when the pupil is tired after a day's work. Winter schools can only be made successful by the hearty co-operation of fathers and farmers, and they will co-operate when they realise that the new spirit in rural education is going to mould more competent men and women and to keep them on the land.

155. From the winter schools the more intelligent boys will naturally pass to the farm institutes under the Boards of Agriculture, but the most intelligent should be advised to continue their regular education at the secondary schools under the Departments of Education.

156. As we have already pointed out, very few secondary schools in agricultural counties have adopted a ruralised curriculum because of the prevalent scepticism of its value, and because of the unavailability of the existing examinations, and very few children from those secondary schools which have adopted a ruralised curriculum go on to agricultural colleges or to the universities with the intention of completing their agricultural education. The reason for this we believe to be that the present tests of the Departments of Education do not succeed in skimming off the right children from the elementary schools, that is those who will make good agriculturists, and because the sons of farmers do not feel that the curriculum is sufficiently ruralised to attract them to the schools.

157. We know that the Departments of Education are fully alive to these facts, and we are convinced that the secondary schools can play a great part in the education of the country population. With a rural bias in the elementary schools, with a proper system of continuation day schools, and with an improvement in the ruralised curriculum of the secondary schools, the value of higher education will become apparent to those boys who are most fitted to become the leaders of agriculture and to their parents.

158. But the realisation of any far-reaching reform in the Elementary, Continuation, and Secondary Schools in our rural districts will be impossible, unless the teachers, on whose influence success will depend, themselves receive the requisite knowledge and the true inspiration in their training as teachers, and unless the pay and prospects of this branch of that great profession are improved so as to attract an adequate supply of gifted and enthusiastic men and women. We desire to endorse with all our influence the necessity for the improvements so strenuously urged by the Departments of Education. We wish, however, to express our opinion that, if agriculture is taught in a Secondary School as a technical subject, it should be taught by an agricultural expert.

Demonstration Farms and Business Methods.

159. The present scheme of agricultural education adopted for England and Wales by the Board of Agriculture and the Development Commissioners is, in our judgment, sound, and furnishes a thoroughly good framework which only requires expansion and completion. Every county should have access to a farm institute, and an agricultural organiser and a demonstration farm or smallholding are required for every county, and more than one for the larger counties. The system of illustration farms existing in Canada strikes us as a useful departure from the ordinary model, and we think that in some instances these might take the place of demonstration farms. The difference between the two types is that, whereas the demonstration farm would be worked and managed by the staff of the Board of Agriculture, the illustration farm would be worked and managed by a farmer, who would look to the farm for his living, but would undertake to work and manage it according to the directions received from the staff of the Board of Agriculture, which in return would guarantee him a certain interest on his capital invested in the farm. The purpose of demonstration farms or small holdings and plots and of illustration farms is usually the same. Their main purpose is, not to carry out experiments, but to show the results of farming according to the best practice on exactly the same lines as farming is conducted by farmers or smallholders in the district in which the farm or plot is situated, and is essential feature is that accounts should be kept with scrupulous exactitude and the financial results of the methods indicated be published. The recommendations of this paragraph are of application to all parts of Great Britain, but in the case of Scotland the superintendence should always be vested in the colleges acting in conjunction with the Agricultural Committees of the Counties.

160. There is, however, a special type of demonstration farm to which we wish to draw attention. Sometimes it may be desirable to take a comparatively small farm and to run it on a different system from the one prevailing in the district—e.g., it might be a good thing to go

into the Vale of Pewsey, in Wiltshire, and set up a farm showing the method of producing milk on arable land instead of on grass, or in another county to illustrate the continuous-cropping system, or on the coast of North Wales to set up a small market-garden farm. Such farms need not be large, because their object would be to show the local farmer a holding such as his own might become. They would not be experimental except in the broadest sense, and they would be run solely with the idea of commercial success, the accounts being made accessible to the surrounding public.

161. The Boards of Agriculture would be free to use the existing Provincial Councils or the Agricultural Committees of the different counties as their agents for agricultural education and for their live-stock schemes, and in every case the agricultural colleges would remain an essential and valuable part of the machinery of the Boards of Agriculture for the guidance and inspiration of the county organisers, who should form part of their staff, as the source from which lecturers and instruction could be furnished, and as constant instruments for agricultural research. It should be a special function of these agricultural colleges to teach the farmers and small holders something about agricultural machinery—how to select, to use, to take care of and to repair their machines, and something about the mechanical principles involved. They should also teach them the value of accounts and how to keep them. The importance of this latter apparently small matter to British agriculture can hardly be over-estimated. At present all that very many farmers know is whether they are making or losing money; they do not know whether any given agricultural operation is a profit or a loss to them; if they did know they would often be profoundly astonished. Such an absence of business methods is simply deplorable. There is also need for systematic teaching about labour. The whole question of agricultural wages really depends upon the proportion which costs of production bear to the price of the product. The largest of these costs is the labour bill, and the efficiency of the labour is the controlling factor in the costs of production. Wages must then ultimately depend upon efficiency, and this is the point upon which attention must be concentrated. The attainment of efficiency is the province of management, and the management of the farm is the factor which transcends all others in importance.* It is very necessary that the farm institutes and agricultural colleges should receive more liberal grants than hitherto, and that they should be maintained and developed as places of study to which the most promising pupils can go to complete their agricultural education; and, wherever possible, a group of farm institutes should be linked up to an agricultural college; but it is even more important that agricultural education should be brought to the labourer, small holder, and farmer than that he should be invited to go to it. For this reason we lay great stress on the necessity for winter schools on the Irish model, for demonstration farms and small holdings and plots scattered throughout the counties, and for the presence in each county of an adequate and thoroughly trained staff of organisers, experienced in the practice as well as proficient in the theory of agriculture. These men should, above all things, avoid becoming "office" men. They should be responsible for a definite geographical area, (not too large to be worked thoroughly), and for the organisation within it of all classes and lectures for labourers, small holders, and farmers' sons. Their business is to be on the farms and in the markets, to become the friend of the farmer and small holder, to whom in cases of doubt or unexpected difficulty he will turn for advice, and who can show to him on the spot the results produced on the demonstration farm or plot, and expound the accounts. To secure a sufficient supply of these men the scholarship system must be largely extended.

162. One other form of agricultural development may be mentioned here because of its educational effect, and that is the establishment in various parts of Great Britain of large farms run on purely business lines, but open to inspection and giving publicity to their methods and accounts. These farms should consist of 3,000 acres or upwards, and they should be worked upon the same organised system as any other large productive business is conducted. It is the opinion of the Development Commissioners that the influence of these farms on agriculture, and so on food production by their example, and on the investment of capital in agriculture by the results they could show, would be remarkable.

Research.

163. The research work already being done is quite admirable, but it needs stronger support yet from public funds. We reiterate that this is productive expenditure which will bring in to the State a manifold return. In Scotland and England and Wales alike many of the staff engaged in agricultural education, organisers, lecturers, live-stock officers, are underpaid, and this is especially true of the assistants in research work. As Dr. Russell and Professor Biffen pointed out to us, there is a constant flow of the most promising graduates from the United Kingdom to the agricultural departments or colleges of the Dominions, India, and foreign countries simply because we do not pay them a sufficient salary, and this is true also of the county organisers and also of the less highly-trained officers. That this is bad policy and utterly uneconomical needs no argument.

164. The evidence that has been laid before us has amply shown the ultimate value of pure scientific research and the dependence of the development of the industry upon investigation that is independent of any apparently immediate practical end. Dr. Russell showed in his evidence how the use of artificial fertilisers, the production of new varieties of plants, the treatment of pests and diseases, the detection of waste and loss in cultivation, are all dependent upon research work, and Professor Biffen explained to us the wonderful results that have been obtained in plant breeding with sugar beet, wheat, barley, maize, oats, potatoes, peas and other vegetables. Not only is it necessary to extend such work on the actual production

* This subject is admirably treated in a pamphlet on *Agricultural Labour* by Mr. T. R. Posenby, published by the Co-operative Reference Library, Dublin, 1917.

of new varieties, but an organisation must be built up for the proper distribution to the farmer of the new varieties originated by research. The scale of this organisation at Cambridge is still far behind that of the plant breeding station at Svalof, in Sweden. With a little more time and with access to the necessary funds for growth, it is certain that results will be obtained remunerative in themselves and of the utmost financial value to the industry as a whole. In this connection it should be observed that the introduction of a new variety of a widely grown crop like wheat may easily add many hundreds of thousands of pounds to the agricultural output of the country, but the benefit is so general and so widely distributed that it is almost impossible by ordinary commercial means to secure any adequate return, or sometimes even the payment of working expenses, to the originator of the variety.

165. The experience of the last two or three years, during the disturbed conditions produced by the War, has shown the necessity for adequate data concerning the costs of production of our staple agricultural products, and has revealed all too clearly the absence of fundamental economic data connected with the industry. The Institute for Research into Agricultural Economics at Oxford represents a beginning in this direction, but it had been at work for too short a time and on too small a scale to be able to supply what has proved to be so desirable to the proper understanding of the industry and its part in the national life.

166. Of the remaining needs in the direction of research, in Scotland as well as in England and Wales, the greatest is the establishment of an Institute for Research into Agricultural Machinery. Not only would such an institute have a stimulating effect upon the development of machinery to meet the rapidly changing conditions of agriculture, and upon the men responsible for the design of agricultural implements in our great manufacturing concerns, but it would ensure better instruction in the value and use of machinery in our agricultural colleges, where the study of machinery, especially important at the present moment, has been very inadequately dealt with in the past. In our judgment, every college should possess one teacher who has specialised in this subject, and such teachers should be able to get at the proposed institute the post-graduate training that would enable them to give efficient instruction in this subject. Not only are teachers of machinery needed in the colleges, but itinerant advisers on mechanical questions should, in future, be part of the equipment of county instruction, thus bringing to the farmer himself a better knowledge both of the capacity of machinery to deal with his special problems and of its care when he has acquired it.

167. Apart from pure research, it is necessary to provide in all parts of Great Britain for the investigation on an industrial scale of the possibilities attaching to the cultivation of crops not at present part of the normal agricultural output of this country, and to the development of various rural industries closely linked with agriculture. We have already dealt with the question of sugar beet. The operations of the Development Commission have begun to provide information as to the conditions which will permit of the production of flax, hemp, and tobacco, from which investigations important consequences may grow. The procedure, however, is cumbersome, and it is desirable that both the Development Commission and the Departments of Agriculture should be enabled to pursue experimental enterprises of this description much more directly and energetically. As the experiments are essentially industrial and are valueless unless conducted on a commercial scale, they inevitably involve considerable initial outlay, which may be only partially recovered in case of failure. The community is, however, thereby saved from the repeated losses involved in the tentative and often badly informed attempts that are constantly being made by individuals, and even one success will repay the State for a large number of failures.

Live-stock Schemes.

168. The live-stock schemes of the Boards of Agriculture furnish a good commencement of urgent work, but much still remains to be done. It should be the special function of the Boards to support the truly admirable work done by private breeders and societies of breeders in Great Britain and to encourage scientific research into practical stock breeding. We desire to express our appreciation of the admirable work done under the various live-stock schemes of the Boards of Agriculture. We see in these schemes the only method by which the success achieved by British breeders of farm animals can be made effective in building up the general excellence of the live stock of the country and in contributing adequately to the prosperity of the agricultural industry, and especially to its successful prosecution by those who occupy the smaller holdings. We urge that these schemes should be continued, developed, and extended until they cover the whole field open to them. Great Britain has sometimes been called the stud farm of the world. We desire that the live stock of our own farmers should benefit to the fullest possible extent by the national success in the production of stud animals.

169. The schemes for the improvement of live-stock should be permanent charges on the Boards' votes; a society cannot be established purely on the basis of a five years' grant from the Development Commissioners. We attach great importance to the work of the milk recording societies, and think that the grants made to them should be increased, and that the certificates of the Board of Agriculture and Fisheries or of the Scottish Milk Records Association should be adopted as a true statement of the performances of a cow. These records are of great importance from the point of view of breeding for milking qualities, as many dairy farmers never rear a heifer calf and the farmers who purchase calves from them know nothing of their breeding. They also furnish indispensable guidance in the purchase of stock bulls for dairy herds.

170. We wish to draw particular attention to the necessity for granting power to the Boards of Agriculture to check the use of bad sires. In our opinion no bull should be used to serve any cows but its owner's without a licence from the Agricultural Committee of a County, and the Boards of Agriculture should have power to order the castration of a bull

so used. Most certainly no stallion should be allowed to serve any mares but its owner's, or to travel for the service of mares, without a licence from a Board of Agriculture. Such a regulation would do more than any other measure which can be suggested to improve the average quality of British horses. By these means bad bulls and stallions would be gradually eliminated and an immense improvement effected in the live stock.

171. We wish to emphasise the importance of taking measures to deal with tuberculosis in cattle. It is a matter of common knowledge that this disease is widely prevalent, especially in dairy herds. It is generally recognised that this constitutes a danger to human health; and it is undoubtedly a considerable source of loss and waste in food production. On both grounds we urge that steps should be taken to combat the disease. We are convinced that the use of the tuberculin test, while affording no guidance as to the severity of the disease in any animal, gives a trustworthy indication as to whether the tested animal is or is not entirely clear of tubercle, and thus supplies a line of division, on one side of which there is safety and on the other danger. We do not suggest that every animal "reacting" to the test is, in any proper sense of the word, diseased. Still less do we propose that every reacting animal should be slaughtered or that its milk should be condemned. Indeed, we are aware that any such course would create a serious scarcity of milk.

172. We think it, however, most desirable that farmers should be encouraged and enabled to do their utmost to reduce, and eventually to eradicate, tuberculosis in their herds by regular use of the tuberculin test and by such arrangements as may in each case be practicable to diminish the contact, especially in byres and cow-houses, of reacting with non-reacting animals. In order to bring this about, we suggest that the Boards of Agriculture should take steps to arrange for applying the tuberculin test in herds whose owners desire it, either free of cost or at a very low rate of charge. We are convinced that farmers, having before them the object lessons which such a course would undoubtedly afford, would be stimulated to make the greatest possible efforts to rid their herds of tuberculous infection in order to avoid the losses which it would be shown to entail.

173. We recommend the resumption, when circumstances render it advisable, of the policy of the tuberculosis orders which were in force before the war. We further suggest that the possibility of a protective inoculation against tuberculosis should become the subject of careful research.

174. The live-stock officers should be appointed by the Board of Agriculture and be its servants; they should have a sliding scale of salary, and their posts, which are now temporary, should be made permanent and pensionable. A large increase of the vote is wanted for the development of the schemes and for the employment of more officers. Moreover, specially qualified persons should be attached to the agricultural colleges where they should devote their time to the study and investigation of problems relating to live-stock breeding, and be ready to advise farmers thereon.

Cost of Agricultural Education.

175. If our recommendations are adopted, the whole cost of agricultural education in England and Wales will be thrown upon the Imperial Exchequer, and corresponding and proportionate grants will consequently have to be found from the same source for the cost of the new services to be discharged by the Agricultural Committees in Scotland or for some educational purpose in Scotland and for some corresponding purpose in Ireland. On the outbreak of War the total annual aggregate expenditure on agricultural education in the whole United Kingdom from all sources of public revenue was about £310,000. According to figures supplied to us which are believed to be a fair general indication of the facts, although not presented as statistically exact, the aggregate expenditure on the same object was, in the Dominion of Canada in 1915, £840,000; in the Union of South Africa in 1913, £125,000; in the United States of America in 1912, over £4,000,000; in France in 1913, over £1,000,000; and in Prussia in 1910, £490,000. There is therefore clearly room in the United Kingdom for a largely increased expenditure on agricultural education without any suspicion of extravagance.

Education of Women.

176. Before quitting the subject we have something special to say about the education of women, who can play a great part in the reconstruction of agriculture after the war and whose intellectual interest in country life must be surely aroused if we wish to secure an increased rural population. We hope that numbers of the women, who have been working on the land during the war, will wish to remain in agricultural occupations and to avail themselves of the openings which will be presented to them in many branches of farming such as dairying in its various forms, pig-breeding, and poultry keeping. We hope that every possible encouragement will be given to women so disposed and that the agricultural colleges will see to it that their courses are made suitable to them, and that the posts of lecturers are as open to fully qualified women as to men.

177. The subject has already been fully dealt with in the Report (1915) to the Board of Agriculture and Fisheries of the Agricultural Education Conference (Agricultural Education for Women) presided over by Lord Barnard, which did such a great service in stimulating an interest in agricultural education. We desire to draw attention to this valuable document, to endorse its recommendations (see Appendix V.), and to express our complete concurrence with the following reflection extracted from paragraph 2 of the Report: "It is

between 14 and 16 years of age that so many of the girls brought up in rural districts at present lose touch of country life. No matter what facilities for agricultural education may be offered to them later, these girls will have neither the taste nor the aptitude for it. This is a matter for serious consideration in view of the fact that it is women no less than men who are responsible for rural depopulation, and that there is no inducement in the form of higher wages which will tempt them to return." The fact is that the local conditions which have brought about rural depopulation, bad housing, low wages, lack of prospects, affect women even more than men, and that the influence of women might be exerted in the opposite direction if they had been taught to make more comfortable homes with less drudgery, and if they had the necessary knowledge to enable them to build up a social order in which the natural advantages of country life could be made to counterbalance the artificial attractions of the town. Lord Barnard's Report deals with the problem of agricultural education as it affects all classes of women, but that of "The Training and Employment of Educated Women in Horticulture and Agriculture" has also been treated by Mrs. Roland Wilkins in the "Journal of the Board of Agriculture" for October, 1915, and we recommend that article to the study of all those interested in the subject.

Education of Landowners and Land Agents.

178. The education of Landowners and of Land Agents is a matter of the greatest importance to the future of agriculture and to the welfare of the countryside. We wish to draw special attention to the Appendix VI. devoted to this subject and to a consideration of the great influence which the Public Schools and Universities can exercise in connection with it.

ORGANISATION AND CO-OPERATION.

179. The organisation of agriculture may be regarded from three points of view:—The administrative, the economic, and the social. With the first two we are directly, with the third indirectly, concerned. The need for organisation was naturally felt first in Ireland, where agriculture dominates the national economy. There a group of social workers have, from a centre in Dublin, studied the modern problem of rural life in its entirety for over a quarter of a century. Notwithstanding the wide difference in the conditions, the other parts of the United Kingdom may learn something from the experience and conclusions of these agricultural reformers. They have insisted throughout upon the necessity of treating the rural problem on its three sides—the technical, the commercial, and the social. Agriculture must be regarded not only as an industry and as a business, but also as a life. They concentrated upon the organisation of the business of farmers because they were convinced that this is a condition precedent of an increased productiveness in the industry, and of better social conditions for the country population. They held that State action in promoting agriculture, which must be mainly educational (using the term in the widest sense), depends largely for its effectiveness upon the degree in which the work can be done with and through organised bodies rather than individuals. Further, in the social reconstruction of rural life they have found that more than half the difficulty of getting men to combine together for the higher purposes of mutual improvement is overcome once they have learned to come together, and have found it to their advantage to do so, in the business of their lives. Hence the improvement in the business methods of farmers is not only to be commended as a mere matter of commercial prudence, but it is fundamentally essential both to technical efficiency and also to the building up of a rural society which will meet the needs of a modern progressive democracy. This policy is conveniently summarised in the Irish formula, better farming, better business, better living. In the working out of the policy the first place is given, for the reasons above indicated, to better business.

180. Agriculture has suffered grievously from the neglect of the State, but the consequences of that neglect were intensified owing to the fact that, while the importers of foreign-grown food and the consumers of food were engaged in perfecting organisations for their advantage, no corresponding steps were being taken by the producers of home-grown food. The more complicated our civilisation becomes the greater the necessity for organisation and co-operation. Not only have we great arrears to overtake in the organisation of agriculture, but every year new occasions of advantage offer themselves which if missed will proportionately diminish the possible profits of the industry. The problem for every cultivator of the soil, small or big, is the same, namely, how to grow the maximum amount of foodstuff on a given area at a minimum cost, how to find the right market for each instalment of produce at the exact moment it is ready for sale, how to get that instalment to that market in the quickest time and at the least expense, and how to ensure that when delivered at that market it is sold to the best advantage to an honest and responsible purchaser. When this problem is fully solved, two parties will greatly benefit from its solution, the farmer or smallholder who has produced the food, and the consumer who has bought it. The former will have received the largest reasonable reward for his outlay of capital, energy, and skill; the latter will have secured his foodstuff at the lowest reasonable price.

181. When we come to examine the business of agriculture as now conducted, its outstanding feature is isolation, and this in an age when combination becomes daily more necessary in order that the small man may enjoy some share in the growing advantages of the big transaction. The failure of farmers to combine, when it is obviously to their advantage to do so, has usually been attributed to the circumstances of their lives. Living apart and working

all day out of doors, there is little inclination to leave the domestic hearth and travel to a convenient meeting place, even if such exists, to discuss affairs of common interest in the evening. It is further stated that agriculturists, as a class, are hopelessly individualistic and conservative. Undoubtedly the difficulty is increased by the fact that the large farmer feels the need of organisation much less than the smaller, and such advantage as he thinks might be derived therefrom is discounted in his mind by the trouble he is likely to have in instructing others in better business methods. We think this view was never sound, and that the solidarity of all classes engaged in the industry has now become essential on economic and social grounds. Be this as it may, the natural leaders refusing to lead, the majority have been slow to listen to outsiders, however well informed and intentioned, who have tried to stir them into co-operative action. In addition to these explanations there is a further cause of the difficulty of which sufficient account has not been taken. All experience shows that the joint-stock method of combination, essentially a combination of capital for profit, suitable to other industrial and commercial occupations, is not generally suitable to agriculture, which is essentially a combination of persons for mutual benefit. In the practical recognition of this basic fact lies the key to the re-organisation of the business of agriculture, which, as we have said above, is essential not only for economic, but also for administrative and social reasons.

182. It is true that large farmers with plenty of capital do not need the help of a co-operative organisation as much as smaller farmers, but, as 80 per cent. of the farmers in Ireland held less than 50 acres, as smallholders, both old and new, abound in Scotland, and as 85 per cent. of the cultivable land in England and Wales is in the hands of holders of 150 acres and less, there was really no country in the world where it is more needed than in these islands.

183. It will be a great misfortune if the larger farmers stand aside from this movement because individually they feel the need of organisation and co-operation less than the smaller ones. All those who live from the land must realise the need to stand together and so advance the position and increase the influence of the agricultural classes in the country. The agricultural interest will eventually go to the wall if it is unorganised and disunited while other interests are highly organised and concentrated. No individual of the agricultural community will personally profit more by the general strength of agriculture than the large farmer. No movement will do more to establish the strength of agriculture than co-operative organisation. For his own interest therefore the large farmer must join the small one in this movement. When he has been attracted to it for reasons of business, we believe that he will remain in it also from enthusiasm for a social ideal which he did not previously comprehend.

184. To bring home this vital truth to farmers should be one of the most important aims of agricultural education. But two difficulties have to be surmounted. In the forward trend of all thought it is hard to get people to believe that a business method which suits the town is not good for the country. A farmers' combination has not infrequently failed because it was organised by a town solicitor as a joint-stock company instead of as a co-operative society. Secondly, if the right method is introduced through a government or other agency financed out of public monies, opposition arises from organised non-agricultural interests, who fear the disturbance of their business relations with unorganised farmers. It is well known that in Ireland this conflict of interest led to a bitter controversy between the organised farmers and the country traders, and the latter, having immense political influence, were able to prevent the working out of the Recass Committee's ideal of co-operation between the Department of Agriculture and farmers' associations. The Irish agricultural reformers, who foresaw these difficulties, recognised the necessity of a new agency of social service to deal specially with the organisation of farmers. So, in 1894, they founded the first of these institutions and christened it the Irish Agricultural Organisation Society. In 1901 an English, and in 1905 a Scottish Society was founded on the Irish model, with identical rules and names, except that the founders of the English society preferred to call themselves The Agricultural Organisation Society.

185. The general objects and policy of the three Organisation Societies are identical. Societies are formed throughout the country, and in addition an immense amount of work is done by the enquiry and intelligence bureaux. Not only do agriculturists of all kinds have recourse to this service, but it is also used by statesmen, social reformers, societies of all sorts, and Dominion and Colonial Governments. The societies in each case have a central office with local branches under its control. Their functions are limited to propaganda and organisation, and they do not themselves carry on any trading or productive operations, these latter being confined to their affiliated co-operative societies. In England and Wales and in Scotland, and to a somewhat less extent in Ireland, there still remain large areas into which the work of organisation has not penetrated owing to lack of funds, and in some districts the farmers have not even heard of the English society. This state of things can only be remedied by the building up of a large staff of capable organisers, entrusted each with an area not too large for one man to control. These men can preach the gospel of co-operation in every parish and keep in constant touch with the societies when formed. The recurrent evil from which all Agricultural Co-operative Societies suffer is the want of interest, or even the actual disloyalty, of the members of local societies towards the parent Society. This is in the opinion of the officers of the Agricultural Organisation Society the greatest present drawback to the spread of the movement. On the other hand it is certainly true that the influence of the Agricultural Organisation Society on quality and prices extends far beyond the membership of the local societies, in respect of what the farmer sells as well as in respect of what he buys. We will now give some description of the Societies in the order of their foundation.

Irish Agricultural Organisation Society.

186. The Irish Agricultural Organisation Society (better known as the I.A.O.S., a corresponding abbreviation being adopted in England and Scotland) played the rôle of the pioneer. Its practical aims have been ably summarized by the Secretary in his evidence:—" . . . to insist on the right of the farmer, as a manufacturer, to buy the requirements of his industry and to dispose of his produce in the best markets, to increase the volume and improve the quality of his produce, to work in harmonious relations with any and every agency, governmental or private, whose aim is the development of agriculture—to reconcile the present apparent conflict between farmers and farm labourers by combining them in co-operative societies for their mutual benefit, and by equitable adjustment of their relations, and to bring together all Irishmen in a movement, in which neither class, creed, nor politics has any place, for the common good of the country and for their own advantage." Since its foundation in 1894 the Society has succeeded in applying the co-operative system to every branch of the farmers' industry in Ireland, and has created what may be called a national movement, the success of which has been remarkable. In 1916 the societies organised by the Irish Agricultural Organisation Society had reached the number of 991, with a turnover of £4,667,036, and a membership of 162,591. That the Irish farmer has benefited greatly by the Society's work is beyond question. The manufacture of butter, which by its haphazard and unscientific methods was rapidly falling into disrepute in comparison with that of other countries, has again become through the efforts of the Irish Agricultural Organisation Society one of the most important industries in the country, as it was before the new methods were introduced from Scandinavia. In the egg industry no less an improvement has been made. The bacon industry, a far more difficult matter, has been in more than one instance successfully organised by farmers on the co-operative plan. One other business development needs to be mentioned. The Irish Agricultural Organisation Society has always divided its work into two stages, the first being the organisation of individuals into local societies, covering an area no larger than admits of all concerned meeting at a common centre, the second being the federation of those societies into a central body for wholesale transactions in purchase and sale. The chief of these federations is the Irish Agricultural Wholesale Society, a union of co-operative societies affiliated to the Organisation Society. Through the machinery of this trading federation, the cost of fertilisers has been reduced by from 30 to 40 per cent., and their quality enormously improved. This body can also claim credit for the fact that the testing and guaranteeing of seeds has become general, whereas Ireland used to be known as the dumping ground of the most inferior seed in the market. One branch of the work of the Irish Agricultural Organisation Society deserves special attention. It has organised and made self-supporting an auditing service, through which the affiliated societies may have their accounts audited and their books inspected by a staff of experts at low rates.

187. In addition to the material improvements which the work of the Irish Agricultural Organisation Society has brought about, farmers have experienced by association in democratically constituted bodies, the moral benefits attached to responsibility and self-reliance. The constitution and administration, both of the local co-operative societies and their federations, is as democratic as it can be made. No less striking is the fact that almost alone among the agencies of reform in Ireland, the co-operative movement has succeeded in causing people of the most divergent views, both political and religious, to work together in perfect harmony. All observers of Irish conditions are able to testify to the many ways, both material and spiritual, in which the life of the country has been improved by the 25 years of work of the Irish Agricultural Organisation Society.

English Agricultural Organisation Society.

188. It was not till 1901 that the English Agricultural Organisation Society came into existence on the amalgamation of the National Agricultural Organisation Union, founded by the late Lord Winchelsea, and the British Agricultural Organisation Society. Like the Irish and, indeed, every other co-operative movement, it had great difficulties to overcome to achieve existence at all, and an immense deal of spade work to do before any appreciable results appeared. The coming of success was sure, if slow, and now (1917) the Agricultural Organisation Society can point to 550 societies under its aegis, doing a turnover of £3,500,000 in agricultural business in 1915, and with every prospect of this turnover rapidly increasing. The Society in its early years was much hampered in its work by its narrow resources, and it would be absurd to expect that it should have revolutionised English farming opinion in the course of its short period of existence, and with such an income as it possessed. Now, however, thanks to the practical recognition by the Development Commissioners of its national utility, the Society is enabled to carry on its work on a scale more adequate to its purposes. It is essential to the success of the co-operative methods of organisation that it should be democratic in character and constitution. The pioneers of the Agricultural Organisation Society have not lost sight of this point, but we think that experience indicates the advisability of a careful revision of the Constitution as laid down in the Articles of Association of 1912, with a view to securing a better representation of the affiliated societies on the governing body.

Scottish Agricultural Organisation Society and Smallholders Organisation.

189. The Scottish Agricultural Organisation Society dates from the year 1905. It has accomplished much with slender means, and must already be pronounced a great success. About half of the Executive Committee which directs its policy consists of persons actively engaged

in the work of the local societies affiliated to it; its societies now number 160; and the growth of membership and turnover between the commencement of its operations and the present time has been remarkable. The general objects and policy are the same as with the Irish Society, only adapted to the national conditions of Scotland; but special features of its work are the development of the Poultry Industry in the Orkney and Shetland Islands, the Outer Hebrides, and the Northern Counties, Co-operative Dairying in the South-West, and the formation of Societies for Co-operative Stock Improvement and for the Co-operative Purchase of Farm Requirements.

190. The Scottish Smallholders Organisation was founded in the year 1913. It has to some extent the same general objects in view as the Scottish Agricultural Organisation Society with this distinction, that it serves the interests of smallholders alone, and with the addition of the promotion of Small Holdings under the Smallholders (Scotland) Act, 1911, as a special object. The Board of Management does not appear to consist largely of persons actively engaged in agriculture or in co-operation in the different localities where it has formed societies, but much energy and enthusiasm has been thrown into its work. It has formed Trading and Credit Societies and Local Committees, and Limited Liability Companies to deal with trading, credit and insurance, known as the Scottish Central Markets, the Scottish Central Land Bank, and the Scottish Central Insurance Society.

Future of the Co-operative Movement.

191. The need being so great, and the advantage so obvious, the question will naturally arise whether the co-operative movement in agriculture can be firmly established without assistance from the State, and, if the answer to that question be in the negative, the further question will arise whether the work should not become altogether an enterprise of the State. It is certain that the movement cannot within any reasonable measure of time become established without State assistance, and it is the definite opinion of all those who have worked it up in Ireland and Scotland and Wales and England that it is one which can be much better worked on a voluntary basis than as an institution of government. In their Report for the year ending March 31st, 1912, the Development Commissioners gave their considered opinion on the point in question in the following words:—

"The arrangements for assisting the organisation of co-operation in Great Britain have been settled in outline. The principle adopted by the Commissioners has been, in substance, to utilise the existing voluntary societies which have done the work in the past, and extend its extension to those bodies, reconstituted, and strengthened by the admission of representative elements from outside. Two reasons have weighed with the Commissioners in adopting this policy. In the first place, they think that co-operation is particularly the kind of movement to which it is essential to retain the enthusiasm of voluntary workers. They fear that the grant of Government assistance, and the consequent measure of Government control, may to some extent weaken the spontaneous character of the movement; but they feel that it has a better chance of surviving under the arrangements now made than if the necessary assistance, which the Commissioners were glad to supply, had been given to official bodies. Secondly, the geographical and other limitations of the available public assistance, at least in England and Wales, render them inconvenient and probably expensive agents for this particular purpose. The natural co-operative divisions of the country do not follow county boundaries, nor is the area which one Organizer and his assistants can cover confined to one county."

We see no reason to differ from this conclusion, but, accepting it, we have to ask ourselves whether the bodies which exist for the promotion of organised co-operation in Ireland and Great Britain are successful in their work, and whether they deserve the continued support of the State.

192. We have no hesitation in expressing our opinion that those bodies formed to promote organised co-operation in the United Kingdom deserve well of the State, and should receive continued financial support from it. They have arrived at different stages of development and strength and therefore their needs are different.

193. The help received by the Irish Agricultural Organisation Society from the State has been less generous than that extended to the sister societies, and the conditions imposed in the interests of local traders have been more stringent. There has also been considerable difficulty in adjusting the relations between the voluntary body and the newer State Department. Nevertheless the Society seems to be holding its own, and its present position and future prospects may be regarded as highly satisfactory. The expenses for the current year are estimated at £13,500, of which £5,400 will be contributed by the State and the balance mainly by the organised farmers. It is, and has always been, the laudable ambition of the Irish Agricultural Organisation Society to achieve financial independence, but it is recognised that this process must be gradual. Its work falls into two main classes:—The maintenance and supervision of existing societies on the one hand, and, on the other, new organising work, some of which will necessarily be done in specially impoverished districts, while some of it is of a definitely experimental nature. The time is at hand when the work done under the first heading may well become self-supporting, but it is not probable that in the near future the contributions of existing societies can be made to cover new developments. Such work may be subsidised out of public funds without offending against any economic principle, and we recommend that for this purpose the State contribution to the Irish Agricultural Organisation Society should be maintained during the period of reconstruction at least at its present figure. The development of such societies would rapidly help the Irish Agricultural Organisation Society to become completely self-supporting. Finally, we note with satisfaction that the prospect of harmonious working between the Irish Agricultural Organisation Society and the Department of Agriculture, which is a *sine qua non* of Irish agricultural progress, is getting brighter.

194. The Agricultural Organisation Society on the other hand cannot fulfil its responsibility to England and Wales unless it receives a much larger grant than at present. Private contributions are precarious in their nature and cannot be looked to as a permanent source

of income. Rather they should be regarded as windfalls, to be earmarked for some special and temporary purpose, such as a new and experimental development. On the other hand the support received by the Agricultural Organisation Society from its affiliated societies is indefensibly exiguous. In some way or other every member of the agricultural community who benefits, directly or indirectly, from the work of the Agricultural Organisation Society should through his society make a reasonable contribution to its funds. In 1911 the Governors estimated that to carry out their scheme in its entirety the annual grant required from the Development Fund should be £30,000. We are not in a position to express any opinion as to the exact accuracy or otherwise of this figure under present conditions, but we recommend that the present annual aggregate grant of £12,000 received from public funds should be steadily increased, as the Society shows its capacity for doing the work for which it was founded, and in proportion to the support received from other sources.

195. The Scottish Agricultural Organisation Society has hitherto been treated less liberally in the matter of Government grants than the Agricultural Organisation Society in England. It has only received from the Development Commissioners £1 for every £1 that it could raise from other sources. The arguments, which we have used in respect of private contributions and the contributions of affiliated societies in England, naturally apply also to the case of Scotland, but we are of opinion that the claim of the Scottish Agricultural Organisation Society for increased support from the State is a very strong one, and that it should receive a grant on the same scale as that given for the benefit of agricultural co-operation in England and Wales. The Scottish Smallholders Organisation has been treated on a more generous principle by the State as it appears to have little income in addition to the grants which it receives from the Scottish Board of Agriculture. It does not appear to us to be an ideal arrangement by which there should be two bodies in Scotland to some extent doing identical work and both receiving grants in aid from the Government.

196. The continued and increased support recommended for the Agricultural Organisation Societies in the three countries should be accompanied by the carrying out of any changes which may be needed to make them effective. As we have already pointed out, in dealing with the Irish Agricultural Organisation Society, it is essential that the work of an Organisation Society should be regarded as filling, in a complete scheme of rural reconstruction, a part complementary to that allotted to the State Department, and that accordingly harmonious relations should exist between the two parts. It is, in our opinion, important that the organisers and instructors appointed by the State should collaborate with the organisers appointed by the voluntary Organisation Societies, and assist each other as much as possible. In cases where financial assistance is received from the Development Commission it is desirable that there should be representatives of the State on the governing body of the Organisation Society for the purpose of supervising the proper expenditure of all moneys so granted and to satisfy the Treasury and the taxpayer that such moneys are applied only to the educational purpose for which they are given.

197. At the end of the war there will be an immediate call for the development of the work of the Agricultural Organisation Societies; and, accordingly, it will be necessary to work out in detail the policy which it is proposed to carry out for the application of State money to agricultural organisation. In the West of Ireland the Irish Agricultural Organisation Society has even yet new ground to break, particularly in the direction of organising societies for the co-operative use of implements and machinery in districts where the spade, the sickle, and the flail have not yet been displaced by the plough and by reaping or threshing machines. This work falls under the second of the two classes of the Irish Agricultural Organisation Society's programme, with which we have dealt in Paragraph 192, and State assistance may properly be used in carrying it out.

198. In Scotland the Scottish Agricultural Organisation Society sees greater and greater opportunities of work in front of it, but cannot act for lack of funds. The societies of smallholders in the Islands and Northern Counties require constant help and guidance in their business, and in order to give this effectually organisers should be appointed to devote their whole time and attention to assisting societies in their particular areas. Education and assistance in the matter of book-keeping and the preparation of books for audit, and in the making up of annual returns for the Registrar, are urgently needed. There are possibilities of the resuscitation and development of the kelp industry if it could be properly organised. The crofters and the fishermen need the help and advice of the Scottish Agricultural Organisation Society just as much for the fishery as for the agricultural side of their business. The Scottish Smallholders Organisation looks forward to a great increase of small holdings after the war, and therefore to a constantly increasing call for its operations.

199. In England and Wales the Agricultural Organisation Society foresees the increasing need for the spread of business habits among agriculturists especially in the matter of book-keeping and accounts, and wishes to make instruction to that end among members of the societies a special object, and to establish an audit department after the successful model of the Irish Agricultural Organisation Society; it desires to cover the country with a network of organisations for buying and selling for the farmers, to rope them together so as to get more products out of the soil and more profit for the cultivators, and to re-organise the Farmers' Central Trading Board so that it may fill to the Agricultural Co-operative Societies the place which the Co-operative Wholesale Society fills to the Industrial Co-operative Societies; and particularly it wishes to be able to turn its attention to the question of transport in remote districts, because it believes that a fresh field of work lies before it in the collection and distribution of produce, and that the United Kingdom is more backward in this sphere of agricultural organisation than any other civilised country.

Agricultural Credit.

200. Credit is more necessary for the conduct of agriculture than for that of other businesses, because of the peculiar conditions of the industry and the long turnover of the capital invested in it. The fact that the industry persists in any country is a proof that those engaged in it have capital or obtain credit somehow, but the manner in which that credit is obtained will materially affect the degree of prosperity which the industry enjoys. In the comprehensive policies for the re-organisation of agriculture, adopted by the continental countries since the third quarter of the 19th century in order to secure greater food production, a leading place has always been occupied by the subject of credit. As the result of much enquiry and experiment as to the most effective methods for providing facilities, especially to medium and small farmers, for obtaining working capital, practically every European country came to two conclusions:—

- (1) Firstly, it was determined that the peculiar conditions of agricultural production failed to obtain due consideration under modern banking systems. Banks had developed into undertakings mainly adapted to serve home and foreign manufacturing industry and commerce, so that, by virtue of their organisation and legitimate business objects, they inevitably tended to constitute inefficient agencies for financing farmers. The credit requirements of the latter had, however, enormously grown, whereas their facilities had become more restricted.
- (2) Secondly, it was determined that the only efficient method of providing agriculture with credit facilities similar to those enjoyed by industry and commerce was the establishment of a co-operative credit system. In default of collateral or banking security, credit necessarily was primarily dependent upon confidence born of knowledge of the credit-seeker, combined with facilities for the credit-giver to supervise; its fundamental basis was, in fact, local knowledge before and after transactions. As it is not a business proposition for the purely commercial bank to decentralise to the extent required to secure such minute local knowledge of the standing and character of medium and small farmers, the only resource was to organise local institutions and to indicate how the necessary funds for their business were to be obtained.

201. In Canada and in the United States the same credit needs have recently grown acute. In 1912 all three presidential candidates pledged their parties to introduce measures to deal with agricultural credit; since that year several Canadian and American commissions have urged the need of co-operative credit systems for farmers.

202. It should be noted that not merely economically backward countries, but also advanced countries with old and highly developed banking systems, such as U.S.A., Holland, Belgium, France, Germany, Italy, Austria-Hungary, framed policies on this basis. Countries so diverse as Russia, India, Japan have followed suit during the last dozen years with most remarkable results. For a somewhat longer period Bulgaria, Serbia and Rumania have had a thick network of credit societies with their State Agricultural Banks.

203. The subject has received the continuous attention of many legislatures, of which the following list of laws, important and unimportant, passed in respect of it in the years 1911-1915 only, is striking evidence:—

LAWS RESPECTING AGRICULTURAL CREDIT. 1911-15

Country.	Number of Laws.	Country.	Number of Laws.
Germany. (Imperial and Local Laws) ...	15	Canada ...	5
United States. (Local Laws referring to individual States) ...	14	Mexico ...	5
Italy ...	12	Russia ...	5
Switzerland ...	11	China ...	4
Costa Rica ...	10	Spain ...	4
Portugal ...	9	Rumania ...	4
Austria (Imperial and Local Laws) ...	8	Ottoman Empire ...	2
France ...	8	Mauritius ...	2
Australia ...	8	Bulgaria ...	1
Sweden ...	8	Regency of Tunis ...	1
Argentina ...	7	British Indian Empire ...	1
Denmark ...	7	Union of South Africa ...	1
Japan ...	6	Greece ...	1
Uruguay ...	6	Honduras ...	1
		Norway ...	1

204. In 1916 the legislation on the subject in the different States of the U.S.A. culminated in a very important federal Act called the "Federal Farm Loan Act." Within the British Empire there has also been much legislation on the subject, viz., in the West Indies, in India, in South Africa, in British Columbia, in New South Wales, Queensland, South Australia, West Australia and Victoria, and in New Zealand.

205. In the Parliament of the United Kingdom alone has the subject been practically ignored, except, incidentally, as part of the effort to deal with the land question in Ireland and to provide Smallholdings in Scotland. On the other hand, of all the countries above mentioned, that in which agricultural credit has been most studied and developed is Germany, where the national strength has been as deliberately built up on its agricultural as on its military resources. We think it will be useful, therefore, to give a short account of what has been done there, abstracted from the very complete "Report to the Board of Agriculture and Fisheries of an

Enquiry into Agricultural Credit and Agricultural Co-operation in Germany, with some Notes on German Live-stock Insurance," by Mr. J. R. Cahill (Cd. 6536, 1913), to which all those who wish to study the subject fully may be referred. This account will be found in Appendix VII.

206. The conditions of German, and, indeed, of Continental, agriculture differ fundamentally from those of the United Kingdom in a particular which goes to the very root of credit. The majority of German farmers own the land they farm and they can pledge that land as security for a loan. The majority of farmers in Great Britain do not own the land they farm and therefore this security is not available to them. It follows that the solution of the problem of agricultural credit here must almost certainly be different in important respects at least from the continental solution.

207. The conditions of Irish farmers, now that the Land Purchase Acts have effected the transfer to them of so large a proportion of the land of Ireland, approximate more closely to those of the Continent than do those of Scottish, Welsh or English farmers. Fortunately the subject as it affects Ireland has recently been fully dealt with in the "Report of the Departmental Committee on Agricultural Credit in Ireland" (Cd. 7375, 1914), to which we can refer all those interested in the subject. The principal recommendation of a majority of the Committee was to the effect "that much would be gained by the establishment of Credit Societies under the supervision of an Agricultural Credit Section of the Department of Agriculture, with the aid of an Advisory Committee, on which representatives of the co-operative movement, the Joint Stock Banks, and the various State Departments dealing in agricultural loans, might be invited to sit." "There is, we consider, ample scope in the sphere of rural credit in Ireland for the operations of Credit Societies which may prefer to remain solely under the supervision of the I.A.O.S., and of those Societies formed in connection with the scheme proposed in our Report. Time would bring out the respective merits and defects of each system. The important duties of central supervision and inspection performed by Unions on the Continent would thus be undertaken in Ireland by the Agricultural Credit Sections of the Department of Agriculture and of the I.A.O.S."

208. They pointed out "that the figures of the various schemes of loans and grants for agricultural purposes administered by the Board of Works, the Congested Districts Board, the Department of Agriculture, and the Estates Commissioners reveal the large amount of financial aid to Irish farmers administered through these channels." Their conclusions on the subject of the pledging of the land as security were as follows:—"We have devoted special attention to the important question of long-term loans and the mortgaging of land in Ireland. . . . A complete system of compulsory registration of title is an absolutely indispensable condition of every sound system of real credit. . . . The establishment of a long-term credit mortgage institution on *Landchaften* lines may eventually become a necessity in Ireland, if it be not found possible to revise the Land Loan Schemes of the Board of Works with a view to their greater elasticity and their adaptation to the needs of small farmers. The development also of the agricultural loan schemes of the Department of Agriculture and of the Congested Districts Board, combined with the agency of Credit Societies for shorter term loans, should, in our opinion, prove sufficient in most cases for the credit requirements of farmers not met by the Joint Stock Banks. The full development of these sources of credit should, at any rate, be thoroughly tested before any experiment based on Continental Land Mortgage Credit Organisations be attempted."

209. The Committee lay stress on the value to the farming community in Ireland of the credit given by the Joint Stock Banks and we were definitely informed that this was so and that it was seldom that a farmer of good character could not obtain all the facilities of credit, however small, that he might require from the local branch of some Joint Stock Bank and on very reasonable terms.

210. Mr. B. A. Anderson, Secretary of the I.A.O.S., informed us that that Society had originally formed its Credit Societies on the lines of the *Raiffeisen* system, and that the chief objection to it in a mixed community was that the well-to-do man would not join a Society in which he might become responsible for the debts of men less well circumstanced. He also told us which he might become responsible for the debts of men less well circumstanced. He also told us that none of these Societies were now being started by the I.A.O.S., but that a special clause had been added to the rules of all the Agricultural Societies enabling them to make loans to their members on the same lines as the *Raiffeisen* system. This experience of the I.A.O.S., which has resulted in the abandonment of special Credit Societies and in the incorporation of credit functions into the scheme of the ordinary Co-operative Societies will be of special interest when we come to consider the case of Great Britain.

211. Scottish conditions of land tenure are certainly not more akin to the Continental than English, and yet it would appear that the problem of agricultural credit for the smaller farmers and for smallholders is somewhat nearer solution there than in England, owing to the greater readiness of the Scottish Joint Stock Banks to cater for this class of business.

212. Nevertheless, the S.A.O.S. includes among the types of Societies affiliated to it a Co-operative Credit Society, Limited. The leading features of this type of society are that the borrower must produce two cautioners to back his credit, and that, as the title implies, the liability of the shareholders is limited to the amount of their holding. The Scottish Smallholders Organisation also has established as an offshoot the Scottish Central Land Bank, Limited, in affiliation with which a number of local credit societies has been formed. But the credit operations of both these organisations are at present only on a very small scale.

213. Principal W. G. Paterson, of the West of Scotland Agricultural College, expressed the opinion that "something in the way of land or credit banks would be of the very greatest advantage and have marked effect on production." The general effect of the evidence we received was that while the opportunities of landowners for "long credit" were of the same

restricted type, and of large farmers for short credit were as adequate through the operation of the Joint Stock Banks, as in England, the credit facilities of the smaller farmers were better in Scotland than in England owing to the closer touch which seems to exist between them and the local branches of the Joint Stock Banks. But the credit facilities available for the smaller farmers and smallholders are not yet adequate. Some of them habitually obtain it in most undesirable ways, not in definite borrowings from a bank, but in long-deferred payments to tradesmen and dealers. We were also informed that in parts of Wales the Joint Stock Banks more nearly meet the credit requirements of the smaller farmers and smallholders than in England. The reason why this should be so in Ireland and Scotland and in Wales is probably due to the fact that the Joint Stock Banks more often find it necessary to select local men as the Managers of their local branches in those countries than in England, and that the comparative absence of great industrial undertakings in the areas covered by many of the local branches of the banks in these countries makes the competition keener between the banks for such agricultural business as exists. Although this is so, the circumstances of all parts of the United Kingdom are sufficiently similar to make it possible to deal with their agricultural credit requirements on the same lines, and to make it true that when describing those of England, and making suggestions for meeting the want, what we write may be taken as applicable to the whole country.

214. The landowners of Great Britain constantly require long credit loans for the industrial equipment of their land for agricultural purposes. Comparatively few can erect expensive farm buildings or cottages or drain their land or construct roads or furnish water supplies out of income. They must borrow money either from their bankers on the security of their personal property, the extent of which is well known to the Bank Manager, or they must effect a mortgage on their land, or they can borrow from the Land Improvement Company under the Improvement of Land Act.

215. Particulars of the proposed improvement are sent to the Company and are submitted by them to the Board of Agriculture, who refer them to an inspector for a report. If this is favourable—i.e., if in his opinion the annual value of the property to be improved will be increased by an amount greater than the annual charge, they issue a Provisional Order, which is the authority to proceed, the execution of the work being under the control of the landowner or his agent. When the work is completed the Board's inspector again visits and reports, and if this report is favourable an Absolute Order is made making the sum advanced a charge on the property prior to existing mortgages and settlements, but not to quit rents, Crown rents, or tithe rentcharge payable out of the land. The Company's commission is 5 per cent. on the outlay, and this sum and also the Board's charges for inspection, the registration fee, and stamp duty, which on the average amount together to another 3 per cent., are added to the sum borrowed. For example, if £1,000 were borrowed for an improvement, the initial costs of effecting the loan would very likely be £80, and, consequently, the total amount of the loan on which the landowner would pay interest would be £1,080. The annual interest payable on this loan may not by the terms of the Land Improvement Act exceed 5 per cent. (and, of course, in present circumstances it could not be less), and to this must be added a sufficient additional sum to permit the return of capital within the period during which the charge is made. Forty years is the longest time allowed, but it varies from 20 to 40 years according to the prospective life of the improvement. The present rate of payment works out at £7 12s. 4d. per cent. per annum for 20 years, and £5 16s. 1d. per cent. per annum for 40 years. From 1878 to 1882 the average annual advances amounted to £378,528, and this has decreased gradually and by varying amounts until only about £109,000 per annum was advanced before the war.

216. In our opinion the principle is sound upon which the Lands Improvement Act is based, and which permits the land improved to be charged with an annual payment over a fixed period of years in respect of interest and the return of principal on the capital sum advanced, provided that the annual value of the land is increased to an extent not less than the amount of the annual charge. The machinery, however, provided, by which a private company intervenes between the borrower and the Department which is responsible for the security of the charge, seems to us to be sadly cumbersome and the cause of avoidable expense. In order to give the best return land must be properly equipped, and it is therefore in the national interest that facilities should be given to ensure the steady flow of capital for the purpose of such equipment. We think that a means should be found to enable funds to be available for these purposes at the lowest rate compatible with the State Credit, and that the Board of Agriculture should do everything in its power to simplify and cheapen the procedure.

217. Turning to the supply of short credit for farmers of all sorts, it may be taken for granted that a solvent large farmer with a banking account has no difficulty in obtaining loans from his bank by way of overdraft, but that is not the case with a great number of the smaller farmers and smallholders, who have no banking account, and it must always be remembered that over 80 per cent. of the farmers of England and Wales hold less than 150 acres of land. The A.O.S. has recently employed Mr. John Ross to make a special investigation into the conditions of agricultural credit for such men in England and Wales, and we are indebted to his report for a statement of the position, which we reproduce in Appendix VIII. The majority of traders of various descriptions, with whom farmers deal, are honourable men playing a valueable part in the national economy, and we are convinced that those responsible for the whole body. We do not assume any responsibility for the opinions he expresses or for the statements he makes, but we believe that the picture he draws is an accurate description of facts which came to his notice.

218. The A.O.S. had at the end of 1910 forty-eight "credit societies" in connection with it in England and Wales, and the business done by them was small. The principal features of these societies are the unlimited liability of the shareholders, and the requirement that the borrower should produce two friends as sureties. The verdict of Mr. Rose upon them is "that they are in the main failing to effect their purpose—that is to assist the smallest men to improve their position." It is not one of the objects of the "trading societies" affiliated to the A.O.S. to make loans to their members.

219. The conclusion at which we have arrived is that the best method of offering credit facilities to landowners, farmers, smallholders, or agricultural labourers is when they are associated together in a co-operative society; that such societies should not be *ad hoc* credit societies, but trading societies doing also a credit business; that these societies should be turned on a limited liability basis and that they should accept deposits from their members; that, as the Industrial Co-operative Societies purchase their requirements from and are financed by the Co-operative Wholesale Society, so these Co-operative Trading Societies should purchase their requirements from and be financed by the Farmer's Central Trading Board* or some body performing analogous functions, and that in the A.O.S., S.A.O.S. and I.A.O.S. there is the machinery in existence through which all this can be effected. What the British and Irish farmer desires when he borrows money is secrecy and simplicity in the operation. This he has received from the tradesman or auctioneer with whom he deals, and what the Co-operative Trading Society should give him is the advantage of this system of credit which he has craved for himself without its liability to abuse. The Co-operative Trading Society should keep its trading business and its credit business rigorously apart. If the member of a society requires to purchase materials for his agricultural business and cannot pay for them in cash, he should be referred to the Manager of the Credit Department of the Society. If the Manager considers the member trustworthy and the purpose for which he wishes to spend his money a sound business proposition, then he should make the loan to him and pay the money over to the Trading Department of the Society. The business should be transacted, as in the case of a bank, between the borrower and the Manager, but the Manager's action should be superintended (as would be the case in a bank by the General Manager and Board of Directors) by a specially constituted Finance Committee of the Co-operative Trading Society. The interest charged to the borrower should be the commercial rate of the day with a sufficient additional charge to cover management expenses and to build up an insurance fund against losses.

220. The primary conditions to be observed in regard to the borrower are:—(a) a sound judgment is needed of the personal character of each applicant for a loan, whether he is a man of strict integrity, whether he is a good man of business, whether he is a good farmer; (b) there must be security that his farming is run on sound business lines, and that the advance will be used so as to get for him the best value for his money, and thus to ensure the largest profits, out of which interest can be met and capital repaid; (c) the loan must be for a specific purpose and temporary in character. The primary conditions to be observed in regard to the lending body are: (a) it must be in a position to know its man, to have intimate and continuous knowledge of his character in the sense described above; (b) it must be in a position to offer the farmer membership of a sound agricultural co-operative trading society; (c) it must be able to watch the application of the loan and make sure that it is in fact used for the purpose intended, and that the borrower's farming is kept up to a reasonably good standard. It should be an express condition of every loan that the Finance Committee of the Society should have power to call it in, if it were satisfied either that the loan was not being applied for the purpose for which it was borrowed, or that the farm was being badly farmed.

221. The Central Trading Bodies should have their Finance Committees and keep their loan business quite distinct from their trading business. These Finance Committees should deal with all applications for loans from Co-operative Trading Societies, whether for their own business or to lend again to their members. They should also receive for investment all the money deposited with the Co-operative Trading Societies. But the Central Trading Bodies cannot have the same intimate and continuous knowledge of the Co-operative Trading Societies as those Societies can have of the character of their members. We are of opinion, therefore, that those Bodies should make no loan to any Co-operative Trading Society, which is not on the list of "Approved Societies" furnished to them at a fixed date every year by the A.O. Societies, and that the A.O. Societies should not admit to the list of "Approved Societies" any Society whose accounts are not audited by them and found to be in a satisfactory condition, and of whose general conduct of business they are not fully satisfied by the report of their inspectors.

222. The Central Trading Bodies should be thoroughly representative of all the Co-operative Trading Societies and their government should be on an elective basis. From what source can they obtain their capital? In our judgment the most satisfactory plan would be for the Central Trading Bodies to come to an arrangement with one or more of the Joint Stock Banks, both for the necessary loans and for the use of money deposited with the Co-operative Trading Societies. We believe that a scheme worked out in detail on the principles which we have indicated would offer a prospect of sound business, in which the Joint Stock Banks would be ready to participate. But it is possible that, in its initial stages at any rate, the Joint Stock Banks would require some form of Government guarantee in addition to the security of the assets of the Central Trading Bodies and of the Co-operative Trading Societies. In that case

* The Farmers' Central Trading Board in England and Wales, the Farm and Poultry Produce Federation in Scotland, and the Irish Agricultural Wholesale Society in Ireland. The group may be described as the "Central Trading Bodies."

we think that the Treasury should give its sanction on the certificate of the Department of Agriculture, that it has satisfied itself by audit and inspection of the efficiency and prudence of the Central Trading Body and of the soundness of its position.

223. We also submit that agriculture has a claim on the assistance of the Post Office Savings Bank. At present that Bank draws in the aggregate a great mass of deposits from the agricultural districts of the United Kingdom, but those districts receive no advantage whatever from the investment of those funds by the General Post Office. They may be invested in Government, Colonial Government, or Municipal stock, but in no circumstances in agriculture. We think that it would be only fair that those funds should be made available to lend to the Central Trading Bodies, with the approval of the Treasury and on the certificate of the Department of Agriculture.

224. At present the Agricultural Co-operative movement in the United Kingdom is hopelessly under-capitalised. Farmers do not take enough shares in the Co-operative Trading Societies and the Co-operative Trading Societies do not take enough shares in the Central Trading Bodies. The contribution from the Central Trading Bodies and from the Co-operative Trading Societies to the A.O. Societies are utterly inadequate. And yet behind the whole movement are the tremendous credit and security afforded by the productivity of our soil, the potential increase of which is so great. It is submitted, therefore, that, if the credit can be mobilised and fertilised by loan capital, there is no reason why ultimately the organised agriculture of the country should not become self-supporting.

SMALLHOLDINGS: OWNERSHIP AND TENANCY.

225. There is a conflict of opinion whether smallholdings or large farms make the largest proportionate contribution to food production. Sir Robert Wright, Chairman of the Scottish Board of Agriculture, stated to us that "the most efficient method of increasing the productivity of the land was to increase the number of smallholdings," and, again, that "food production from smallholdings would always equal or exceed that from even the best managed farms," and he furnished us with an interesting memorandum giving statistics of increased production in the case of several farms converted by the Scottish Board of Agriculture into small holdings. Mr. J. L. Green, Secretary of the Rural League, was emphatically of the same opinion; he told us that in Switzerland the fact that the gross returns per acre increase in proportion as the size of the farm diminishes is "regarded as scientifically established," and he cited with approval the statement in the Report of the Board of Agriculture for 1909 on the working of the Small Holdings Acts that the establishment of smallholdings "will result in more intensive cultivation and greater productiveness." Mr. D. C. Barnard, formerly County Land Agent in Norfolk, and now a Small Holdings Commissioner under the Board of Agriculture, gave evidence to the same effect. The general opinion of the other witnesses we have examined must be held to be different. Their view was certainly that the highest pitch of production is reached on large farms scientifically worked and commercially managed with abundant capital behind them. We do not think it necessary to take either side in this controversy, because we believe that no generalisation on the subject can be safely or usefully made.

226. An analogous controversy exists in respect of the comparative merits of ownership and tenancy, in the case of smallholdings and large farms alike, and regarded from the point of view of productivity and of general advantage. In Scotland by the Small Land Holders (Scotland) Act, 1911, an interesting experiment in tenure is being made. The tenants are given judicial rents and fixity of tenure (subject of course to the faithful observance of their contracts), but they are not allowed the right of the free sale of their holdings. The Scottish Board of Agriculture considers that the Act is working quite satisfactorily except for the complicated nature and the great cost of its procedure, the consequence of which is that the progress in the creation of small holdings is much slower than had been expected by its authors. We can pronounce no opinion as to how far the difficulties indicated are due to excessive rates of compensation allowed by the Act, as has been suggested to us, or how far they are inherent in the methods which are adopted in the Act for the creation of smallholdings, but we recommend that the whole question should be made the subject of an impartial enquiry by independent experts before any amendment of the Act is attempted. It should be borne in mind, however, that the recommendations of the special Sub-Committee of the Reconstruction Committee, which we hope will soon be at work, on the method of acquiring land by public authorities for public purposes will apply to the acquisition of land for smallholdings. It is believed by some persons that this tenure, which may be technically described as Fixity of Tenure and Fair Rent without Free Sale, will be capable of application on a large scale and be permanent. We believe that the system exists nowhere else, and it seems to us inevitable that, if the system became largely extended, the State tenants would combine to claim Free Sale as a right and as the natural corollary of Fixity of Tenure and Fair Rents.

227. In England and Wales under the Small Holdings Acts smallholders are simply the tenants of the County Councils without legal fixity of tenure, judicial rents, or right of free sale. Their position is, however, a very secure one so long as they fulfil their contracts, and in the opinion of the Board of Agriculture and Fisheries the system is satisfactory, and the schemes of the County Councils generally may be regarded as a definite success. One feature of the English system should be specially noticed. By it the tenant of the County Council pays a rent which not only includes interest on the capital expended on the purchase of the land, but also a sinking fund for the repayment of that capital, and at the end of the statutory period the Treasury will have been repaid its loan to the County Council and the

County Council will stand possessed of the land. This was felt to be a hardship on the tenant, and it was generally agreed that he should be excused the payment of a sinking fund if he was not himself as the result to stand possessed of the land. The outbreak of war, however, interrupted the contemplated legislation to this effect. Mr. Bernard, to whose evidence reference has already been made, gave striking proof of the economic success of the Act as carried by the Norfolk County Council. Since it was passed in 1908 £112,387 of rent has been collected from the smallholders of the County Council with a loss of £85 only. We wish to draw special attention to a feature of management in that county. Every year all the smallholdings are inspected by practical farmers and classified under six headings according to the state of cultivation, and in the case of those which are only "fairly satisfactory," the tenants are told that they will have to quit their holdings the following year if they continue to farm badly. We confidently recommend the adoption of this system of annual inspection to all County Councils.

228. Some comment has been excited by the paragraphs (37 to 48 inclusive) of the Introduction and Part I. of the Final Report of the Departmental Committee "on the Settlement or Employment on the land in England and Wales of Discharged Sailors and Soldiers, 1915," which has been read as a general verdict in favour of tenancy as opposed to ownership in the case of small holdings, but we have been authoritatively informed that this was not the intention of the Committee. They had no wish to formulate a judgment on a question which had not been referred to them. The words of paragraph 37: "We have given special attention to this question and we have come to the definite conclusion that for the purpose which we have in view a system of tenancy is preferable to one of ownership, both from the point of view of the State and from that of the smallholder" were meant to apply to the creation of certain experimental colonies of discharged sailors and soldiers and to nothing else. The evidence of Mr. J. L. Green was directed to prove that a larger production of food could be expected from the owners than from the tenants of small holdings. Mr. John Drysdale, Secretary of the Scottish Agricultural Organisation Society, stated that according to the experience of his society the maximum standard of production among smallholders was reached among the small holding owners of the Orkney Islands. Very interesting evidence was given to us by Mr. C. P. Hall, agent for the Duke of Bedford, in respect of the Great Farm, Maulden, Beds. It appears that the Duke of Bedford sold to the Bedfordshire County Council a farm called Ruxox for the creation of small holdings at their own price (which was £1,773 below the valuation), because the Council calculated that they could not pay the price at which the farm was valued, and, after making allowance for all the expenditure they would incur, let the farm to smallholders except a rental considered to be too high for success. The Duke seized the opportunity of a vacancy in the adjoining farm (Great Farm, Maulden) to purchase it from his trustees at its full valuation, to lay the land out and equip it for small holdings, to provide cow and horse commons for the smallholders, and to let it on the principle that by the payment of half-yearly instalments of sinking fund and interest spread over 35 years the smallholders should become the actual owners of their holdings from the moment of signing the contract. There were over 500 applications for the 18 holdings into which the farm was divided; of the applicants selected there have been three failures, but in no case has the Duke suffered any loss, as the men who failed had no difficulty in selling their holdings to successors on terms which enabled the payments to be kept up on practically the due dates. The scheme completed its sixth year at Michaelmas, 1916, and so far all payments have been punctually made, and there are and have been no arrears whatever. The rate of interest which the Duke charged in respect of the Great Farm was a low one, 3 per cent., but Mr. Hall informed us that the County Council also let Ruxox Farm on fairly easy terms. Both sets of smallholders are doing well, but the difference between the two schemes Mr. Hall explained is that the men at Maulden are now the owners of their holdings, which they are gradually paying for over a term of 35 years. The Ruxox tenants are gradually paying for their holdings for the benefit of the County Council over a term of 80 years. The average rent of the holdings at Ruxox, where there are houses and buildings as well as land, is 40s. 6d. per acre free of tithe. The average of instalments and interest at Maulden for land purchase and building loan (also lent by the Duke) for houses and buildings is 48s. per acre, including tithe, but this sum also includes the common rights, which do not exist at Ruxox, and which account for 8s. an acre. Allowing for this value of the common rights the difference in the annual payments is 4s. 6d. per acre higher in Maulden than in Ruxox, but the amount decreases every year, and the men are effecting an investment resulting in the complete ownership of their holdings in 35 years from the date on which they took possession.

229. We have declined to express any general opinion as to the comparative productivity of large farms and small holdings, but we have no reluctance in expressing our opinion that both forms of holding are essential if the most is to be made out of the land and of country life. We believe that the national life will be strengthened by a greater diversity of tenure and types of holding, that a large increase of smallholdings is necessary, and that of varied types such as dairy and market gardening and not excluding "mixed" holdings. We think this because, whatever the comparative productivity of food, there can be no doubt that there is no surer means of increasing the rural population, which is so greatly decimated, than the multiplication of small holdings, and because small holdings are probably the most available rungs by which the agricultural labourer can mount the social ladder and become a farmer or landowner. We are, moreover, in hearty accord with the general opinion which has been expressed to us that small holders and their families are a very valuable and stable element in the State. On the subject of ownership and tenancy our opinion is definite. Both systems of tenure are required in the national interest. Those small holders who prefer the position of

tenants, either under the Scottish or English system, should remain or become tenants; but those who wish to become owners of the soil they till should have the opportunity given them of becoming owners on terms fair to themselves and to the State. We desire to emphasise the importance of this matter from the point of view of the sailors and soldiers demobilised after the conclusion of peace. What proportion of them will desire to settle on the land there is as yet no means of ascertaining with any approach to final accuracy, but that out of the millions involved a large number will turn their eyes toward the land there can be no doubt. The Dominion and State governments of the Empire will certainly and naturally do all they can to attract these men to Canada or Australia or New Zealand, and in every case the offer made to them will be the ownership of the land they occupy and cultivate on considerate terms. It is quite unthinkable that no corresponding offer should be made by the Government of the United Kingdom on behalf of the people for whom they have fought. Those of them who aspire to become possessors of a portion of the land they have saved and for which their comrades have died, must have the opportunity of ownership given them on terms not less considerate than those offered by the State and Dominion Governments of the Empire. Those who wish to become tenants should have the opportunity of tenancy afforded them on equally considerate terms both by the State through the Boards of Agriculture and through the Councils of the Counties to which, or to the regiments of which, they belong. We cannot but regard it as most unfortunate that no step has yet been taken to make it possible for the County Councils to make preparation for the great demands which may be made upon them for smallholdings directly after the conclusion of peace. Of necessity the Treasury has suspended the issue of loans for this purpose during the War, but the time has come when Councils should be informed of the terms on which loans will be issued for this purpose after the War and when they should be encouraged to turn their attention to the problem before them and, if possible, to secure options in advance on farms or estates, the purchase of which can be completed after the War. In this connection we wish to associate ourselves with the views expressed by the Departmental Committee on the Settlement and Employment on the Land of Discharged Sailors and Soldiers, in paragraphs 103 to 114 inclusive (reproduced as Appendix IX. to this Report) of the Introduction of Part I. of the Final Report, and in respect of the amendments there recommended in the Small Holdings Acts (Cd. 8182).

230. But the unfortunate fact must be borne in mind that for some years after the War, the cost of equipping a small holding with either a house or with buildings will be much greater than before the War. The utmost care should be exercised not to spend any money unnecessarily on buildings. A small holding cannot be properly worked without sufficient buildings, but too much money is sometimes expended on them in the first instance, and often the smallholder could put up himself, or arrange for putting up, what alone is absolutely necessary, more economically than it would be put up by the staff of the County Council or of the ordinary landlord. There is a word of caution also which we think it right to utter in respect of the present position of the small holdings movement. The success of small holders, both under the English and the Scottish Acts, has been during a period of revival in agriculture and of an upward movement in agricultural prices. These men have not the resources with which to withstand a protracted period of agricultural depression, and if, unhappily, there should be a recurrence of low prices such as prevailed during the last depression from 1880 to 1906, it is certain that many of them would fail and the whole movement would experience a lamentable setback. This consideration is a strong enforcement of the plea for stability of conditions, and an additional argument for the guarantee of the price of wheat and oats to secure that stability, for which we have argued in Part I. of the Report.

231. In the report of the Departmental Committee, of which the late Lord Haversham was Chairman, "to enquire into the position of Tenant Farmers on the occasion of any change in the ownership of their Holdings, 1912," after citing the experience of the Small Holdings Acts, the opinion was expressed that no large percentage of tenant farmers would be found desirous or able to avail themselves of a scheme of State-aided purchase, and, indeed, that tenants generally do not desire to purchase their farms except as an alternative to leaving them altogether. Sir H. Trustram Eve, K.B.E., did not sign this Report, but presented a Minority Report, in which he argued from quite a different basis. Mr. J. L. Green expressed to us very forcibly the opinion that, as the labourers were a class without capital, it was ironical and unjust to expect them to be able to put down a part of the purchase money before acquiring their smallholding, or to argue that, because they did not do so, therefore they did not desire to become the owners of the land they cultivated. He declared that, if the labourers were offered the facilities contemplated by Mr. Jesse Collings in his Purchase of Land Bill, there could be no doubt whatever that applications from smallholders and others would come in from nearly all parts of the country to become the owners of land for cultivating purposes. Whether this would be so or not must remain a matter of opinion unless and until the offer is made, but, as free use has been made of the argument that, because there have been few applications from small holders to become owners under the Small Holdings Acts, therefore the small holders do not wish to become owners, it is only fair to remember that, so long as the Irish Land Purchase Acts required the tenant to put down a part of the purchase money in cash, there were comparatively few applicants for purchase, but that, as soon as the State waived that condition, and advanced all the purchase money, practically every tenant became an applicant, and, further, that, under the English Small Holdings Acts, the small holder who applies to purchase his holding has to find one-fifth of the purchase money himself. In addition to the evidence in favour of ownership by small holders given before us and already mentioned, we think it right to say that a scheme for enabling tenant farmers to purchase their farms, when opportunity offers, was strongly advocated by more than one tenant farmer who appeared before us. Although Lord Haversham's Committee did not think that the demand for purchase would be

made by a large percentage of the tenant farmers, yet they stated that "of all the remedies which were advanced by the witnesses which came before the Committee to alleviate the grievances under which the tenant farmer was alleged to be suffering, none was advocated so strongly as a scheme by which the tenant should be enabled to purchase his farm by the advance of money by the State," and they definitely recommended the adoption of a scheme for this purpose put before them by Sir Edward Holden, Bart., himself a member of the Committee. Sir Trustram Eve in his Minority Report recommended a different scheme.

232. The Haversham Committee laid down certain main requirements essential to any scheme of State-aided purchase, and, as we thoroughly endorse them, we will restate them. (1) No loss should be incurred by the State. (2) Care should be exercised in selecting the tenants to whom advances should be made. (3) Care must be taken that the purchase price to be paid for the land in no case exceeds the proper market value of the property. (4) The annual payments in respect of interest on the loan and the sinking fund for its repayment should not exceed an amount which the farmer can afford to pay with a reasonable probability of success.

233. By Sir Edward Holden's scheme the money would not be lent to the farmer directly by the Government but by a Land Bank assisted and controlled by the Government. The Bank would be empowered to lend to a farmer four-fifths of the purchase money (leaving him to find the remaining fifth), the sinking fund on which would be repaid by annual instalments spread over a period of 75 years. The interest was to be at the rate of $3\frac{1}{2}$ per cent., the sinking fund was to be $\frac{1}{2}$ per cent., and $\frac{1}{2}$ per cent. (gradually reducible to $\frac{1}{4}$ per cent.) was to be charged for management. Therefore the total annual payment by the purchaser would be $4\frac{1}{2}$ per cent. on the amount of the loan for 75 years; but, if he were able and willing to pay off the loan in a shorter period, arrangements should be made to enable him to do so.

234. The Committee further recommended that the purchaser should be put under covenant to keep the buildings in repair, to farm in a husbandlike manner, to use the land for agricultural purposes only, and to insure against fire, and that the scheme should be limited to sitting tenants and subject to the approval of the Bank of the purchase price proposed to be paid, conditions which in connection with the particular object which the Committee had in view appear to us to be prudent and reasonable.

235. Sir Trustram Eve, heartily accepted the principle of the scheme, that a farmer should be assisted to purchase his holding by means of a reducible mortgage arranged by the State, and the four main requirements already enumerated, but he objected to the interposition of a Land Bank between the State and the farmer mainly on the grounds that the $\frac{1}{2}$ per cent. annually charged to the farmer, principally if not only to cover the expenses of that institution, would as a matter of fact have the result of making the farmer pay for his farm more than twice over. His fundamental objection to the scheme, however, arose from his firm conviction that very few farmers comparatively could find one-fifth of the purchase money and that therefore the scheme would be a failure, and also that the State could, without probability of loss, advance the whole of the purchase money. In support of this opinion Sir Trustram Eve contended that "the risks attaching to reducible and to ordinary mortgages are not comparable," and gave an example of a reducible mortgage as typical of an ordinary average farm, which with his arguments as to the amount of risk involved to the State, and with portions of the appendices to his minority Report we reproduce as Appendix X. to this Report.

236. We feel that Sir Trustram Eve's authority on the subject which he handles is undoubted, and we notice that there is no difference in principle between his scheme and that of Mr. Jesse Collings, whose lifelong devotion to the cause of the agricultural labourer is so well known. By Part I of Mr. Collings' Purchase of Land (England and Wales) Bill the Board of Agriculture, acting in financial matters with the approval of the Treasury, may advance the whole or part of the purchase money, and it generally presents a scheme of purchase for the tenant farmer practically identical with Sir Trustram Eve's. But Part II. of the Bill, to which great importance is attached by Mr. Collings, applies the same principle to the case of "Small Holdings," and is designed for the benefit of the agricultural labourer and would also be applicable to the case of the demobilised sailor or soldier. Under Part II of the Purchase of Land Bill the Board of Agriculture may itself buy the land and adapt it for smaller holdings by sub-division and the provision of houses and buildings; it may advance to an applicant, selected and approved by it the whole cost of the land, including therein the cost of adaptation and equipment, and charge him with an annuity, in which $\frac{1}{2}$ per cent. for sinking fund and $3\frac{1}{2}$ per cent. for interest are included provided that the applicant is, or undertakes to be, an occupying cultivator; and it provides that the Small Holdings Committees of the County Councils shall act as Advisory Committees of the Board of Agriculture, no doubt to assist it with their local knowledge, and especially in exercising discretion in selection among the applicants. In both Parts I and II there are provisions against the use of the land for other than agricultural purposes and against sub-division. In Part III ten million pounds is assigned for expenditure under Part I and two million pounds for expenditure under Part II. Mr. J. L. Green explained that, as all sales under the proposed Bill would be voluntary sales, and the operation of the policy would be more gradual than in the case of Ireland, there would probably be no really large annual sums required and it would be prudent to make a modest commencement.

237. We are of opinion that the Instalment System, always on the assumption of careful selection, would, as Sir Trustram Eve contends, give reasonable security to the State against loss in the earlier stages of the ownership occupation by an ex-tenant farmer; but, as the earlier years might well prove the most difficult, in the case of an entirely new occupation, we think that the advantage of the loan of the whole of the purchase money should be limited to cases where the purchaser has been in occupation of the land for not less than four years. On the other hand we are of opinion that the Annuity System is better suited to the case of smaller holdings created for the benefit of agricultural labourers or demobilised sailors and soldiers.

238. But since Mr. Jesse Collings drafted his Bill and the Haversham Committee and Sir Trustram Eve wrote their Reports, the conditions of the case have been changed by the change in the rate of interest. Their schemes were founded on a $3\frac{1}{2}$ per cent. basis; it is very unlikely that for some years after the war any scheme could be founded on less than a 5 per cent. basis. What difference does this change of rate make to the practical possibility of a scheme of land purchase? It has been contended to us that it will make no difference, because in exact proportion as the rate of interest rises so will the number of years purchase given for a farm fall. It is certain that as the rate of interest rises there must be some fall in the average number of years purchase given for agricultural land, but it is probably seldom exactly proportionate. We have in fact been warned by competent authorities that the matter is very complicated and that it would be quite unsafe to base any calculations on the assumption that the value of agricultural land always follows the line of national credit. The actual rent of many farms is lower than the lettable value and therefore the number of years purchase given for a farm is often misleading. For instance, if the real value of a farm to let is £120 a year, 21 years' purchase of the value may be a reasonable price to pay, but if that farm is actually let for £100 a year only, when it comes into the market 25 years' purchase of that rent will be an equally reasonable price. Again, the increasing prosperity of agriculture and the increasing value of timber will be influences partially counteracting that of the increased rate of interest, because the real value of the land may be increasing and not stationary, and the better the land the more likely is this consideration to have influence. On the other hand, the greatly increased cost of building and of equipping and stocking a farm must make a prudent purchaser hesitate before he agrees to give the same number of years' purchase for a farm as he would have given before the war, and this same consideration must, in respect of buildings, also be taken into account by the Board of Agriculture before it commits itself to the purchase of a farm which it proposes to equip with smaller holdings, whether for agricultural labourers or for demobilised sailors and soldiers.

239. But the matter must be looked at also from the point of view of the seller, the original owner of the farm. Let us suppose that a farm is let for £100 a year and that this is its full lettable value. If that farm had been sold for 25 years' purchase when money was on a $3\frac{1}{2}$ per cent. basis, the owner would have received £2,500 for it, which invested at $3\frac{1}{2}$ per cent. would have brought him in an annual income of £87 10s. 0d. But if he sold that farm also for 25 years' purchase when money is on a 5 per cent. basis, he would be able to invest his £2,500 at 5 per cent. and receive an annual income of £125. Is it reasonable or likely that he should expect to be able to do this? Is it not more likely that he would think himself fortunate to be able to sell the farm for 20 years' purchase, which would bring him £2,000, or, invested at 5 per cent., an income of £100 a year? Although the number of years' purchase had fallen from 25 to 20, he would be distinctly better off with an income of £100 from War Loan than he was with the rent of £100 from the farm, because there would be none of the outgoings in the former case which were inevitable in the latter case and which in Sir Trustram Eve's hypothetical example are put at £20 a year. It appears to us, therefore, that, while it would be unsafe to say that the fall in the number of years' purchase will exactly counter-balance the rise in interest, there will certainly be a sufficient fall in a sufficient number of cases to make the policy of land purchase a practicable scheme on a 5 per cent. basis.

240. There are other considerations also which tend to confidence in this respect. It must be borne in mind that a sinking fund invested in War Loan at 5 per cent., or re-invested in land purchase at the same rate, will extinguish itself quicker than a sinking fund invested at $3\frac{1}{2}$ per cent. A purchaser paying 5 per cent. for interest and $\frac{1}{2}$ per cent. for sinking fund would be clear of his debt at the end of fifty years. Moreover there are ways in which we think that land may be made available for small holdings otherwise than by direct purchase. In later paragraphs we shall describe a scheme which has been laid before us for the redemption of tithe by payment in land. This principle, if good for tithe, might also be applied to the redemption of land tax; it has already been admitted in Section 56 of the Finance Act, 1909-10, as a legal method of paying estate duty, and we think it full time that the necessary machinery was set up for giving effect to this provision of the Act. Moreover it is probable that, if an afforestation policy is adopted by the State, there will be considerable areas taken over by the Afforestation Authority, where smallholdings should be created for the benefit of the population, which will earn its livelihood in the State forests, and indeed as an essential part of the forestry policy. These areas could be administered for this purpose by the Board of Agriculture in Scotland and by the Councils of the Counties affected in England and Wales, and a considerable number of small holders might thus be advantageously located.

241. After this review of the case we will conclude by recommending that the principle of the Purchase of Land Bill should be adopted and an Act passed to give effect to it. We attach special importance to Clause 11 of the Bill, which prohibits sub-division and sub-letting, and we strongly advise that the principle of this Clause should form an integral part of any purchase scheme.

242. Thus the existing smallholding policy of tenancy would receive its complementary completion by the offer of the alternative of ownership, and the tenant farmers would be given an opportunity, when occasion offered, of becoming the owners of the farms they cultivate. This boon has been granted to Irish farmers of every class, and we do not think that the farmers, agricultural labourers or farm servants, and discharged sailors and soldiers of Great Britain are less deserving of State assistance. The security in the case of Irish farmers has been proved to be ample; there are practically no arrears and there has been no loss to the State. We believe that the security in the case of English, Welsh and Scottish farmers would also prove to be good.

VILLAGE RECONSTRUCTION, INDUSTRIES, AND SOCIAL LIFE.

243. The intimate connection between a plentiful supply of agricultural labour and an increase in the output of home-grown food—the primary object of our reference—was recognised in the early stages of our enquiry, and the recommendation with regard to farm wages contained in Part I. of our Report was framed to meet the competition of other and better paid industries. But, in our opinion, the question is not merely one of wages; the conveniences and interests of town life exercise an attraction upon the young rural labourer which can only be met by offering counter attractions in the country districts; and no agricultural policy will be worth having which does not aim at a better developed social life in our villages, at the introduction of fresh industries into the country districts, and at a large increase in the rural population. To this end an effort must be made to break through the stagnation in the life of too many villages by offering better opportunities for social intercourse and amusement, by arousing a stronger feeling of corporate existence and responsibility, and by opening out improved prospects of advancement to the energetic and hard working. With the advance of education a desire for greater opportunities has arisen among the more active and ambitious of the younger generation, causing them to covet the greater scope for their energies offered in urban districts. The proposals made under this head of our Report are designed to lessen the despondency of outlook sometimes associated with existing conditions, and to provide a machinery, which does not at present exist, for the improvement of village life.

244. The difference between villages, even in the same neighbourhood, is often marked. Some seem to carry outward evidence of the prosperity and happiness of their inhabitants, while the aspect of others, less fortunate, seems to indicate with equal plainness a dull and colourless outlook. In the former are seen smiling gardens, well-cultivated and conveniently situated allotments, cottages in good repair, village playgrounds, and social clubs and reading rooms; in the latter, with land in abundance around, we find cottages possessing no gardens or insufficient gardens huddled together so as to reproduce some of the evils of town slums, and absence of all the amenities of life, and allotments so distant from the centre of the village as to be difficult of access and inconvenient for cultivation, the whole presenting an appearance indicative of the conditions prevailing therein. Enquiry will usually show that the difference is due to the fact that in one village a guiding spirit has exercised a sustained policy of development, based upon a clear perception of the requirements of the inhabitants and a study of the best means of providing for them, while the other has been without these advantages. In this connection it has been pointed out that an examination of the maps of the Ordnance Survey reveals how lacking in system has been the development of the ordinary village. In its midst, even adjoining the village street, may be often found land let with large farms, which might better be used for housing or other public purposes, for providing gardens, cow pastures or allotments, or for occupation with adjacent cottages. But it is no one's business to take the lead in demanding a better scheme of use for the land, nor does any machinery exist by which a re-arrangement could be carried out. An atmosphere of stagnation prevails, and it is not surprising that the best men in such districts prefer to try their fortune in places offering greater scope for their ambition. The less efficient remain, and the deterioration in the rural working population, of which complaint is often made, becomes an accomplished fact.

245. Our plan for dealing with these important matters is set forth in detail in Appendix XI. It will be sufficient here to state the general nature of our recommendations.

We are of opinion that the machinery of the Parish Council, the Agricultural Committee of the County, and the Board of Agriculture should be utilised for the purposes of village reconstruction, and that under proper conditions the necessary land should be acquired by compulsory powers if it cannot be acquired by voluntary agreement. If cottages are built or smallholdings are created, we think that the inhabitants of the village should be given the option of tenancy or ownership, but that ownership should not carry with it the power of sub-division or of utilisation for a different purpose than that for which the house was built or the holding created. The money required for a scheme should be advanced out of public funds and repaid by the Parish Council and the parties benefited, following the exact analogy of a scheme under the Small Holdings and Allotment Act, 1908.

246. We have been much impressed with the value of the work done by the Rural League in establishing village industries and of the Agricultural Organisation Society in establishing Women's Institutes, and we recommend that either the Agricultural Organisation Societies in the three counties or some analogous body should receive distinct grants for these specific purposes and that the task of fostering village industries and of forming Women's Institutes should be entrusted to them under the supervision and control of the respective Departments of Agriculture.

TITHE REDEMPTION.

247. As has been already shown in former paragraphs of this Report, much land may be required by the County Councils or by the Board of Agriculture within the next few years for the creation of smallholdings, and also for the purpose of what we have called Village Reconstruction. An ingenious method of obtaining this land through the process of tithe Redemption has been suggested to us by our colleague Mr. Rowland Prothero, M.P., by Sir Trustram Eve, and by Lord Milner. They have suggested, and we believe with reason, that, if the process were made legal and certain necessary amendments were made in the Tithe Act, many landowners, who could not find the cash with which to redeem their tithes, would be glad to free their estates or part of their estates from liability to the payment of tithe rent-charge if they were allowed to do so by giving land in exchange for tithe rent-charge of equal value.

248. Such a proposal would seem specially opportune at the present moment, when the value of tithe approximates, for the first time for many years, to the commutation value and will certainly rise within three years to over £120, as both tithe owner and tithe payer would have something to gain by conversion; the former would obtain the advantage of a fixed instead of a variable income, based practically on the commutation value, and would thus be relieved from apprehension as to the possibility of a return to the low value of the past thirty years; while the latter would benefit by being freed from what seems likely to be an increasing burden for some years to come, and one in respect of which the improvement in the value of agricultural produce brings no compensating advantage, unless the owner is himself in the occupation of the land.

249. We set forth fully in Appendix XII. the plan we recommend for the redemption of tithe by payment in land and the amendments in the Tithe Redemption Act which are absolutely necessary if the process of tithe redemption, whether by payment in cash or in land, is to be accelerated, and we explain the reason why these amendments are necessary. We are strongly of opinion that the redemption of tithe on equitable terms should receive every encouragement from Parliament.

LOCAL TAXATION.

250. A readjustment of the burden of local taxation, so far as it affects agricultural land, has long occupied a foremost place among the reforms advocated by those concerned in the well-being of the farming industry. The chief grounds upon which a claim for an amendment of the present system is based are (1) that unduly heavy charges are imposed upon persons engaged in agriculture in that they are compelled by the conditions of their calling to occupy an amount of rateable property out of proportion, compared with other industries, to their profits and to the benefit which they derive from the rates; (2) that certain of the services in respect of which rates are levied are of little or no benefit to the occupier of agricultural land; (3) that there is a lack of uniformity in the valuation upon which the rates are assessed; (4) that the contribution of the National Exchequer towards the cost of public services of a national character administered by local authorities is insufficient; and (5) that local rates are levied almost exclusively on real property, and that personal property which constitutes the greater part of the national wealth escapes its fair burden of local taxation.

251. The matter is one which has been the subject of an exhaustive enquiry on three recent occasions, viz.—

By the Royal Commission on Agriculture, 1893.

By the Royal Commission on Local Taxation, 1896, and

By the Departmental Committee on Local Taxation, 1912.

It will be seen from the following short resumé of their findings that, although changing circumstances resulted in somewhat different recommendations as to the best way of meeting the admitted grievance, the three enquiries resulted in a substantial agreement that (a) agricultural land stands in a peculiar position with regard to its assessment to local rates compared with other forms of rateable property; and (b) the contribution it is called upon to make towards the cost of national services is unjust.

252. The Majority Report of the Royal Commission on Agriculture, 1893, signed by 12 Commissioners, stated:—

(a) That the high rates which prevailed in the early part of the century owing to the maladministration of the Poor Law could not be taken as justifying the subsequent imposition of new burdens on agricultural land for national objects; and that a further rise in rates might, in view of the then existing depression, have the effect of causing land to fall out of cultivation, a danger which, in their view, had not been sufficiently regarded by Parliament when considering legislation which would impose new burdens on rateable property; and

(b) That in order to do something to equalise the burden of local rates between agricultural land and other rateable properties, the former should be assessed to all local rates in a reduced proportion to their rateable value and the deficit made good by the national exchequer.

253. The Majority Report of the Royal Commission on Local Taxation, 1896, signed by 12 Commissioners, stated that in view of the character of agricultural property and the amount of the profits derivable therefrom, and the relative extent to which benefits accrued to the property and to its occupier by reason of the expenditure incurred by Local Authorities, it would be inequitable were rates to be paid on the basis of its full annual value. The Report went on to recommend that for all burdens of an onerous character (*i.e.* other than those in connection with which a preponderant share of the benefit could be directly traced to persons interested in the locality), and for the cost of the maintenance of highways, agricultural land should be assessed at one-half its rateable value; and that in respect of other burdens, in connection with which the benefit to the agriculturist was small, such as expenditure under the Public Health Acts, he should continue to be rated at one fourth, the deficiency to be made good by means of a grant from Estate Duty on personalty; and that the arrangement embodied in the Agricultural Rates Act, 1896, should continue in the meantime.

254. The Report classified Poor Relief, Police, Education and Main Roads as national services, and discussed how their cost should be met. A local income tax and a special local rate on inhabited houses were found to be open to such objections as to make their adoption impracticable, and the conclusion finally arrived at was that either a direct contribution from the Exchequer or an extension of the system of assigned revenues would be necessary to meet the increasing expenditure on these services.

255. All members of the Departmental Committee on Local Taxation, 1912, concurred in the recommendation of the 1896 Commission that the abatement granted by the Agricultural Rates Act should be continued, and while they recognised the force of the criticisms which have been levied at the form of the grant, they were of opinion that it would be extremely difficult to withdraw the grant without providing something in the nature of a substitute. They recommended:—

- (a) That having regard to the changes which have taken place since the introduction of the Assigned Revenue System in 1908, a considerable increase in the amount of the State subventions to local authorities was justifiable and necessary.
- (b) That the Assigned Revenue System, under which a large proportion of the present subventions are paid, should be abolished, and that in future all State assistance to local authorities should take the form of direct grants from the Exchequer.
- (c) That such grants should only be made in respect of semi-national services—i.e., services which, though administered locally, yet partake somewhat of the characteristics of service administered by the State.
- (d) That the more important services which should be included in the category were education, poor relief, police, main roads, public health, criminal prosecution and mental deficiency.

256. Detailed recommendations as to the amount of the Exchequer grants and the method of their allocation were made, the net increase of Government subventions being estimated at £4,700,000, £2,385,000 being in respect of elementary education and £2,315,000 in respect of other services.

257. It is argued on behalf of the local authorities that a larger proportion of the cost of these services should be borne by the State than hitherto, or even than recommended by this Committee. The equitable adjustment of the shares to be contributed by local and by imperial taxation to the cost of particular services is, however, one matter, and is, in existing conditions, perhaps, the easiest part of the problem to deal with. The more difficult part to deal with, the grievance of the ratepayers and the special grievance of agriculture in regard to the incidence of local taxation is another matter, and rises inevitably from the fundamental defects of the principles upon which local taxation is assessed. For this fundamental unsoundness the Poor Law Commission of 1839-43 and the legislation based on its report are responsible. Up to the year 1840, the clear intention of the law governing local taxation was to tax equally the proceeds of all industries. The facts of the case are set forth in the following quotations from modern economists:—

"Almost all the money raised by English local taxation at present is raised either by means of the Poor Rate or by means of other rates which though they have names of their own, are in reality nothing but additions to the Poor Rate. The Poor Rate is based on the famous Act of 1601, and the principal of that Act, as modified by actual practice and local taxation, is still the basis of the whole system." (*"Rates and Taxes as affecting Agriculture,"* p. 76, by J. S. Nicholson.)

"The accepted view of the 14th and 15th centuries was that each inhabitant should pay according to his ability and substance." (*"The History of Local Rates in England,"* p. 29, by Edwin Cannan.)

"The principle was fully recognised in the 14th century, which has led to be rediscovered in the 19th, that it is always persons and never things that pay rates and taxes. . . . But some visible sign was wanted of the ability and substance of people, and in this way the occupation of lands came to be the chief practical measure in the country and the occupation of houses in the town. . . . This confusion between persons and things had begun before the Act of Elizabeth, but there seems little doubt that, in modern phrase, the Poor Rate was intended to be a local Income Tax upon all the inhabitants of the parish. The difficulty as to the case of non-residents was met by including not only the inhabitants but the occupiers of lands and houses. But it should be observed that the Act first applied to the 'inhabitants,' and apparently the 'occupiers' were brought in simply to cover the case of non-residents. In time, however, the exception entirely ousted the principle. It became more and more the custom to measure ability solely by the value of the lands and houses occupied. And in the end, as a result of these confusions between persons and things, what had been intended to be a local income tax on all inhabitants, levied according to ability and 'substance,' degenerated into a rate levied only on the occupiers of certain forms of property. . . . In a few phrases, indeed, the liability of stock-in-trade to be rated continued down to the present century. And, as is well known, liability of stock-in-trade to be rated was decided in the Law Courts in 1840, and was only annulled by an Act of Parliament. . . . Long before this, at the end of the 17th century and the beginning of the 18th, the drift of local and parliamentary opinion was in favour of greater taxation of personal property. It was solely the practical difficulty of estimating the ability of people in terms of their other possessions which led to the customary exemption of personal property." (*"Rates and Taxes as affecting Agriculture,"* pp. 79 and 80, by J. S. Nicholson.)

258. The Act of 1840, following the recommendation of the Commission in respect of Local Taxation, relegated all local taxation solely to the basis of real property, and aggravated the burden of this proceeding by assimilation, and laying the foundation for the future assimilation of all other rates to the Poor Rate. It is interesting and significant to observe that, in the United States of America and in Canada, this restriction of incidence was never adopted, and that local rates are there still levied on assessments based not merely upon the real property occupied by the ratepayer, but on a valuation of his whole business interests; so that the local rates there do approximately correspond to a local income-tax. No one there finds such a system impossible; and American and Canadian critics are surprised that it should be so regarded in this country. The Inland Revenue Department here profess themselves unable to face its difficulties. Before proceeding farther, the unfairness in this operation of rating law, against which agriculturists complain, may be illustrated by a simple hypothetical case. Two men reside in a rural district. In the market town a professional man—doctor, solicitor, auctioneer or another—makes by his business an income of £750 a year. He occupies a house assessed at

£75 a year, and is rated on a basis proportional to that assessment. Outside his garden wall lies a farm of 500 acres, on which the farmer, also a capable man, earns an income of £750 a year. His holding, including the house, is assessed (say) at the rate of 30s. an acre; total, £750 a year. The farmer is rated (subject to the remission of rate under the Agricultural Rating Act) on the basis of an assessment of £750 a year: that is to say, on just ten times as much as his professional compeer. But this example needs certain comments:—

(1) That when a tenancy is entered into the amount of the rates payable is taken into account in fixing the rent, and the rent is presumably reduced by that amount. So far, then, the tenant starts with a clean sheet, and the owner may be regarded as paying the rates. That he should pay them, as being a charge on real "property," is the intention of the Legislature, and theoretical economics assumes that he "does so in the long run." This, however, is just as true with regard to the professional tenant: the rates of his house may equally be said to fall on the property he occupies, and not on his own earnings. But it does not affect the fact that for every penny added to the rates the professional man will pay on £75, and the farmer on £750, and that neither of them will pass on the increase to his landlord. (2) By the Agricultural Rates Act, 1896, the rates on agricultural land (not on the house or buildings of a farm) were reduced by one-half, and the loss to the local authority was made good by a grant out of the Estate Duty—which remains at the amount which was called for at the date of the Act—another of the empirical, illogical, and unequally acting makeweights by which Chancellors of the Exchequer have tried to ballast the cranky ship of local taxation. But even this ballast has shifted, for any new addition to the burdens falling on ratepayers since the date of the Agricultural Rating Act (and many have been added) has to be met in full by the authority concerned, and, where there is no one else in a rural district to pay the rates but agricultural occupiers, the relief they get in respect of such new burdens by paying half rates is next to nothing, since the nominal amount of the rate has to be doubled to yield the required amount, subject to the set off of such small contribution as may be afforded by those non-agriculturists who can claim an exemption. Whereas, therefore, the Agricultural Rates Act, 1896, did reduce the disproportion between the rating of agricultural incomes and other incomes, it did so on no basis of principle and in a different degree in every different rating area, and such diminution only applies in a trifling degree to any subsequent charges that have been laid upon rural rates.

259. Three practical evils among others, which result to the State from this position of affairs, may be briefly noted:—(1) The agricultural industry labours under a constant sense of injustice which contributes to maintain its habitual posture of an oppressed industry, and its discontent. This tends to embitter its attitude towards the commonwealth, and to render it distrustful of the intelligence, good faith, or intentions of the Government in any of its dealings with agriculture. It forms a constant impediment to the work of the Board of Agriculture. (2) Agriculture is regarded as a dangerous industry to invest in, as being liable to arbitrary and disproportionate impositions on the decision of a Legislature in which agricultural interests are in the minority. (3) The farming class is necessarily and reasonably caused to display in an exaggerated degree the opposition, to which all ratepayers are disposed, towards measures of obvious social advantage imposing any kind of obligation or burden upon local authorities. It is hardly conceivable that this would be the case with a class of men as humane and reasonable as any others, if they had the assurance that the cost of such social improvements would fall upon the rest of the community in the same measure, in proportion to means, as it falls upon them.

260. In this connection it may be pointed out that, whereas until recently the special incidence of the cost of rateable services on agricultural holdings was in some degree set off by special relief in the assessment for income tax—which was, in effect, an arrangement which acted, however roughly and unequally, as a partial further adjustment in this field between local and imperial taxation—this relief has recently been reduced by the assessment of income tax on the full annual value, instead of, as heretofore, on one-third of it only.

261. Some authorities urge that the assessment of the farmer to income tax even on the full annual value of his holdings is a privilege, which cannot be justified, and that he ought to be assessed under Schedule D compulsorily, as he can be now by his own option. Others maintain that in the average of years an assessment on the full annual value of his holding is as accurate an assessment of the profits of the farmer's business as is possible and one quite fair to other income-tax payers. This section of our report deals only with local, and not at all with imperial taxation, and, therefore, a detailed examination of the subject would not be in place. We will, however, permit ourselves two observations. We reiterate our conviction of the great advantage, which would ensue to agriculture, if all farmers were trained to keep accurate accounts; we put on record our opinion that it would not be just to make any change in the manner of assessment which had for its object the imposition of additional imperial taxation upon the farmers as a class, unless simultaneously they were relieved of the admitted injustice under which they suffer in respect of local taxation.

262. There are doubtless grounds for the charge of lack of uniformity in the valuation upon which rates are assessed, but the machinery for a fair and impartial valuation already exists, and if this were properly employed (as it is in the great provincial towns) no extensive or costly changes would be found to be needed. In the great majority of cases an intimate knowledge of the annual value of ordinary hereditaments in their area is possessed by the assessment committees and overseers; and apart from special properties (in connection with which professional advice should be obtained) this enables them to draw up a valuation list sufficiently accurate to secure a fair division of the burden between the ratepayers in the district. The main difficulty is in securing that the valuation list shall continue to be accurate.

ter having once been approved, no statutory period, outside London, is laid down for its revision; and there is, therefore, a tendency for that necessary, but heavy, work to be deferred, and for the lists to become out of date. This defect might be remedied, without serious difficulty, as in the case of London by the Valuation (Metropolis) Act, 1869, by providing for a quinquennial valuation. So far as the parish totals for county rate and similar purposes are concerned, what is required is that the total for each parish shall compare fairly with that of every other parish or unit in the area to which the rate applies. Doubtless cases have occurred, and still may occur, where the total of a particular parish has purposely been kept down in order that the quota payable shall be proportionately reduced. This is clearly unfair to parishes where the valuation is properly made, but since the Local Government Act, 1888, there has been a steady improvement in the correctness of the parish totals, and this might be accelerated by pressure from the Local Government Board on those districts which are lagging behind. Should the principle of the Metropolitan Act be extended to the whole country it would be possible, by associating surveyors of taxes and representatives of county and other rating authorities with the assessment committees, to make uniform and correct valuation lists, which would be available for both imperial and local purposes, and would be kept accurate by the quinquennial revision. We are of opinion that an improvement of existing methods on these lines would be preferable to any complete change in the machinery of rating, and could be effected without the great inconvenience and expense which would necessarily attend an entire change of system.

263. We will complete this survey by the insertion of three sets of figures* with regard to the contention that the contribution of the National Exchequer towards the cost of public services of a national character, administered by Local Authorities, is insufficient. The following Tables showing the total increase in the cost of these services in England and Wales, and the increase per cent. in the amount raised locally are, we think, conclusive.

264. The following tables show the increase of expenditure by Local Authorities during the past twenty-four years in respect of Education, Poor Relief, and Police.

The aggregate expenditure does not include payments out of loans nor loan charges, as these are not classified in the Local Taxation Returns for the whole period covered.

Education.

Year.	Aggregate Expenditure.	Receipts from		Percentage of Receipts from		Increase present in amount raised locally as compared with 1890-91.
		Local Sources.	Imperial Taxation.	Local Sources.	Imperial Taxation.	
	£	£	£	Per cent.	Per cent.	Per cent.
1890-1891 ...	4,056,898	2,552,459	1,404,287	62	58	—
1894-1895 ...	6,437,869	2,994,350	3,443,500	47	53	13
1899-1900 ...	8,222,012	4,021,838	4,200,184	46	54	32
1904-1905 ...	19,556,971	8,125,248	11,467,703	41	59	206
1906-1907 ...	22,150,283	9,235,241	12,917,592	42	58	218
1908-1909 ...	24,028,087	10,643,119	13,384,968	45	55	269
1912-1914 ...	28,069,922	14,190,866	13,873,096	51	49	425

Poor Relief.

(Including Pauper Locality.)

Year.	Aggregate Expenditure.	Local Sources.	Imperial Taxation.	Per cent.	Per cent.	Per cent.
1890-1891 ...	3,112,890	6,875,583	1,287,807	35	15	—
1894-1895 ...	5,052,861	7,806,697	1,636,184	33	17	14
1899-1900 ...	11,071,068	9,802,848	1,768,225	34	16	85
1904-1905 ...	17,589,470	11,704,859	1,882,511	36	14	70
1906-1907 ...	15,700,163	11,791,417	1,908,726	36	14	71
1908-1909 ...	14,187,067	12,174,294	1,968,773	38	14	77
1912-1914 ...	14,579,832	12,633,268	1,946,126	36	16	84

Police.

Year.	Aggregate Expenditure.	Local Sources.	Imperial Taxation.	Per cent.	Per cent.	Per cent.
1890-1891 ...	3,889,846	2,825,217	1,064,529	56	40	—
1894-1895 ...	4,620,448	2,667,909	2,052,539	56	44	10
1899-1900 ...	5,142,082	2,889,625	2,252,457	56	44	24
1904-1905 ...	5,915,971	3,467,442	2,448,529	59	41	50
1906-1907 ...	5,159,172	3,506,629	2,249,513	59	41	55
1908-1909 ...	5,446,507	3,685,381	2,580,116	60	40	71
1912-1914 ...	7,519,931	4,647,979	2,871,902	62	38	99

265. It will be seen that although the proportion of the expenditure borne locally and from imperial resources does not vary to any considerable extent, the increase per cent. in the burden upon the ratepayer has grown enormously. The cause of this has been two-fold: Parliament has continually imposed new, or heavier, duties on the Local Authorities, and Government Departments have been more insistent in their demands.

266. The following figures, based on a memorandum presented by the Central Land Association to the Departmental Committee on Local Taxation, 1912, show how well founded is the complaint that personal property does not bear its fair burden of taxation. The gross

* These figures were furnished to the Departmental Committee on Local Taxation, 1912, by the Central Land Association and have been brought up to date.

income for the United Kingdom brought under review by the Income Tax Commissioners in the year 1912-13 was £1,111,456,413, the rateable value for local taxation in the same year being £268,881,471. From the former sums deductions to the amount of £355,878,866 were allowed, leaving £755,577,547 as the actual income for the year upon which tax was collected. These deductions, however, included exemptions in respect of small incomes and other allowances, which are not admitted in the case of local rates, and in order to permit of a fair comparison only such deductions as are common to both Imperial and local taxation should be considered. The following table makes this comparison:—

Gross income coming under review for income tax	...	...	1,111,456,413
Repairs (lands & houses	...	42,942,150	
Wear & tear of machinery and plant	...	29,205,471	72,147,621
<hr/>			
Nett income for purposes of income tax, less like deductions as are allowed in case of local rates	...	...	1,039,308,792
Rateable value upon which local rates were levied	...	...	268,881,471
<hr/>			
Amount upon which local rates were not levied	...	...	770,427,321

267. While these figures can be taken as approximate only, owing to the differences in the rating systems obtaining in England and Wales, Scotland, and Ireland, they show how large a proportion of the national income escapes any direct contribution to local rates, and that, if ability to pay is to be taken as an accepted principle of taxation, they justify a demand for placing the cost of national services upon a wider basis.

268. In Scotland means and substance continued to be looked upon as rateable subjects, though to a continually diminishing extent, until finally abandoned in 1890. Since then, it may be laid down as a general rule that assessments for parochial rates have been levied on the annual value of lands and heritages, one half being payable by owners and the other half by occupiers. This difference from the system followed in England, however, does not affect the principles discussed in the previous paragraphs under this heading. In Scotland, as in England, the rating system bears more heavily upon agriculturists than upon other members of the community, whether measured by the criterion of "equality of sacrifice" or by that of "benefit received."

269. The conclusions we have come to are:—

1. That the only wholly satisfactory and complete way of meeting these difficulties would be to make all personal as well as all real property assessable for what is called local expenditure. We have not, however, the knowledge on which to express the opinion whether a system, which apparently is found possible in other countries, is or is not possible in the United Kingdom.
2. That, if the system of grants-in-aid is continued the amounts of the grants-in-aid should be revised and be readjusted quinquennially in order that the proportions adopted between them and the rates should be fairly and continuously maintained.
3. But that the next best solution, to the assessment of personal as well as of real property to so-called local expenditure, would be that a clean cut should be made between these services, which are mainly national in character and those which are mainly local, and, where a service is both national and local in character, between that part of it which is national and that which is local, and that the Imperial Exchequer should bear the whole cost of the services classified as national, and the rates the whole cost of the services classified as local.

270. For instance, Criminal Prosecutions and the Maintenance of Lunatics seem to us to be mainly national services, and the charge for them should be borne wholly by the taxpayer. Roads, on the other hand, are both national and local in character. All main roads have become national roads with the advent of motor vehicles, and should become a charge on the taxpayer. The remainder of the roads should be maintained by the ratepayer. In the matter of Education the adjustment is more complicated. Education is essentially a national service, and the case of the country districts in respect of the education rate is a particularly hard one. Under any land system whatever a point must come when the agricultural district becomes an exporter of population to the industrial district, and indeed the periodic importation of a rural population appears to be a necessity for the health and growth of an urban population. But one result of this process is that the urban districts get the benefit of a part of the education for which the rural districts have paid. On the other hand, we share the general opinion of the great value of local knowledge and experience in local administration and especially in that of education. The problem is to reconcile the use of this local knowledge and experience with that full authority of the central government, which is due to it, if the whole or the greater part, of the burden of cost is borne by the taxpayers and not by the ratepayers. It is in pursuance of these ideas that we have recommended that the charge for Agricultural Education should be borne wholly by the Imperial Exchequer, and that we have indicated how local knowledge and experience can be utilised.

271. The services for which the taxpayer paid would be administered by responsible Ministers from Westminster, and they would use the accumulated experience of the local authorities to assist them, but financial control would be vested exclusively in Parliament and in the Treasury. On the other hand, the local authorities would administer the services for

which the ratepayer paid, profiting by the advice but not subject to the dictation of the Government departments in Whitehall, and with financial responsibility only to the local government electors.

AGRICULTURAL HOLDINGS ACT.

272. Occupiers of agricultural land were first given a statutory right, apart from custom, to claim compensation for unexhausted improvements by the Agricultural Holdings (England) Act, 1875. This measure, however, permitted the parties to contract themselves out of its provisions, with the result that it became largely inoperative. In 1883 a Second Act was passed, which, while allowing the parties to agree upon the terms of compensation for improvements, exhibited a considerable advance upon the earlier measure in that it made void any agreements which were inconsistent with the Act on the ground that they did not provide fair and reasonable compensation in substitution for that secured under the Act. Other statutes passed later and dealing with the same subject were the Tenants' Compensation Act, 1890, which gave occupiers of agricultural land the right of compensation for improvements against mortgagees in possession; the Market Gardeners' Compensation Act, 1896; the Agricultural Holdings Act, 1900; and the Agricultural Holdings Act, 1908. The last mentioned measure never actually came into operation as it was repealed, before the date of its commencement, by the Consolidating Act of 1908. It contained, however, several important additions, the most noticeable being the right to claim compensation for unreasonable disturbance and for damage by game and, subject to certain conditions, the removal of restrictions, imposed by custom or agreement, on freedom of cropping and the disposal of produce. It also simplified the procedure in arbitrations, by requiring all questions arising under the Act or under the contract of tenancy to be referred to a single arbitrator. All these measures, together with the 1883 Act, have now been consolidated in the Agricultural Holdings Act, 1908, which may, therefore, be taken practically to cover the existing law on the subject, although two later measures have been passed to meet circumstances which have arisen since 1908. These are the Small Holdings Act, 1910, and the Agricultural Holdings Act, 1914, which empower tenants, dispossessed respectively for the purpose of providing Small Holdings and for the purpose of sale, to claim compensation for disturbance.

273. The Agricultural Holdings Act, 1875, was not extended to Scotland, but the main principles embodied in the English Acts have since been made applicable to agricultural holdings in Scotland, and the Agricultural Holdings (Scotland) Act, 1908, is a consolidation of the following measures:—The Agricultural Holdings (Scotland) Act, 1883; the Market Gardeners' Compensation (Scotland) Act, 1897; the Agricultural Holdings Act, 1900; and the Agricultural Holdings Act, 1906. Scottish conditions with regard to small holdings and sales of estates were not thought to necessitate an extension of the 1910 and 1914 Acts to that country. In 1910 the Agricultural Holdings (Scotland) Amendment Act was passed with the object of making reference to a single arbitrator, under Section 11 of the 1908 (Scotland) Act, no longer applicable "to valuations of sheep stock, dung, fallows, straw, crops, fences, and other specific things the property of an outgoing tenant agreed under a lease to be taken over from him at the determination of a tenancy by the proprietor or incoming tenant."

274. The 1908 Acts have now been in operation for a length of time sufficient to enable an accurate estimate to be made of the manner in which they have fulfilled the objects for which they were passed; and in view of the important influence on agricultural methods of a feeling of confidence that an adequate return will be secured from improvements made by the tenant, we have endeavoured to ascertain the views of those bodies most competent to give an opinion on this point. The following Departments and Societies were asked to express in detail their views as to the desirability, or otherwise, of any amendment to the existing Act:—The Board of Agriculture and Fisheries; the Board of Agriculture for Scotland; the Central Chamber of Agriculture; the Farmers' Club; the National Farmers' Union; the Surveyors' Institution; the Land Agents' Society; the Central Association of Tenant-right Valuers; the Scottish Chamber of Agriculture; and the National Farmers' Union of Scotland. We desire to acknowledge the valuable assistance given by these bodies to the Sub-Committee, and, having carefully considered the opinions expressed by them, we have arrived at the following conclusions. For convenience of reference we have divided them under the following heads:—

- A. Compensation for improvements.
- B. Compensation for disturbance.
- C. Damage by game.
- D. Freedom of cropping and disposal of produce.
- E. Procedure.
- F. Arbitration.
- G. First Schedule.
- H. Second Schedule.
- I. General.
- J. Market Gardens.

A. Compensation for Improvements.

275. The basis of compensation prescribed by the Act is the value of the improvement to the incoming tenant, and not, as was the case under the 1875 Act, the cost of effecting the improvement, with a proportionate deduction for each year which had passed since it was carried out. The proper way, therefore, of assessing the compensation payable in respect of any

improvement would seem to be to ascertain the capital sum which would represent the additional rent which an incoming tenant would be prepared to pay over and above that which he would have given had the improvement not been carried out. The reference to the inherent capabilities of the soil contained in the earlier measures, does not appear in the Act of 1908, but the deletion of these words has not had any appreciable effect upon the practice of valuers. Subject to the view expressed in the next paragraph we are of opinion that the principle now laid down as the basis of compensation is equitable and needs no amendment.

276. It has, however, been suggested that the existing method of assessing compensation does not sufficiently take into account the cumulative fertility due to a system of high farming, beyond the recognised requirements of good agriculture, being followed over a lengthy period. The terms of the Act do not appear to assign any limit to the time during which the improvement, for which compensation is claimed, must have been executed, and compensation in respect of a general improvement to the holding would not, therefore, seem to be excluded. We are, however, informed that in practice the Courts only recognise direct (*e.g.*, residual manurial value) improvements, and not indirect improvements in their interpretation of the Act. It is clear that a man who is under an obligation to cultivate his land in a husbandlike manner, and to leave it clean and in good heart and condition, should not be compensated for carrying out the terms of his contract; but there is real force in the argument that the man who has done more than this, and who by high farming has consistently grown heavier crops and consequently has been able to produce more manure, should not at the termination of his tenancy be required to hand over an improved holding without adequate compensation for its increase in value. We are of opinion that the Acts should be so amended as to make it clear that a claim for improvement of this character may be sustained, but for this purpose a record of the condition of the holding on entry and of operations during the tenancy is essential. No compensation of this sort could be fairly awarded without accurate information of the system of farming, the quantities of hay, straw and roots sold off, and the equivalent manurial returns in their place. The burden of proof that the letting value of the holding had been improved, without any special consideration in respect of rent, or other benefit, such as is contemplated under Section 1 (2) (a) of the Act, should rest on the claimant.

277. We have considered the suggestion that the schedules should be done away with, and that the tenant should receive compensation for everything which he has done to add to the value of the holding, but we are of the opinion that the adoption of such a proposal would tend to increase the likelihood of disagreement between the parties, and add to the expense of settlement. If the list of improvements comprised in the schedules is insufficient, we consider the point would best be met by an extension of the schedules. The suggestion has been made to us by the National Farmers' Union that just as the improvements in respect of which compensation may be claimed are scheduled under the Agricultural Holdings Act, 1908, so also the subjects in connection with which dilapidations may be assessed should be detailed in a schedule. We recognise that the two things cannot be placed in precisely the same category, as the latter are usually covered by the conditions of the lease or agreement of tenancy, and are claimable in respect of actual breaches of those conditions, while the improvements for which claims may be sustained are not as a rule specially mentioned. There would, however, be some advantage in the adoption of the proposal where no agreement exists, or where the custom of the country is either ill-defined or non-existent. We are of opinion that in such cases a schedule of dilapidations might act as a deterrent to bad farming by specially drawing the attention of agricultural valuers to the responsibilities imposed upon tenants to farm in a husbandlike manner and to keep the buildings, fences, drains, roads, &c., in a proper and tenantable condition, and by informing them of the exact extent of their responsibility.

Section 1 (2) (b).—A recent decision of the Appeal Court (*Meggison v. Groves*) has ruled that any sale of hay within the last two years of the tenancy, irrespective of when grown, must be taken into account under this sub-section. We believe that this view is contrary to the intention of Parliament when the Act was passed, and we recommend that the set-off under this sub-section against the tenant's claim for compensation should be restricted to the hay and straw grown within the last two years of the tenancy.

Section 4.—We recommend that in order to avoid a ground for litigation, agreements, made after the passing of an amending Act and substituting compensation in place of that provided under the Act, should be void except in respect of the recommendations we shall make to meet the peculiar case of market gardens.

Section 5.—Should be amended in order to make it clear that the fact that a tenant has undertaken in his agreement to effect a particular improvement, should not debar him from receiving compensation for its value to an incoming tenant, unless his agreement shows that he has been allowed some benefit by the landlord in consideration of his executing the improvement.

B. Compensation for Disturbance.

278. Section 11, *English Act*; Section 10, *Scottish Act*.—It is generally agreed that the compensation allowed under the existing Acts is insufficient in cases of capricious disturbance. We are of opinion that in such cases the tenant might reasonably be allowed an additional year's profit, beyond that made during the year in which the notice to quit is running, in addition to the compensation for loss already allowed under the existing Act. In view, however, of the possibility of disagreement as to assessment of profits, we prefer to base the additional compensation to be allowed on the rent paid, and we recommend the insertion, after

"entitled" in the above sections, of the following words, "to a sum not exceeding one year's rent in addition to compensation for the loss or expense directly attributable to his quitting the holding," &c., &c.

The Agricultural Holdings Act, 1914.—We also recommend that the provisions of this measure, which permits tenants dispossessed of their holdings for the purpose of sale to claim compensation for disturbance, should be extended to Scotland; and that where a holding is sold in more than one lot, and notice to quit is given to the tenant before the sale has been completed, such tenant should be entitled to claim compensation from the original vendor.

C. Damage by Game.

279. *Section 10, English; Section 9, Scottish Act.*—The right of claiming compensation for damage by game allowed under the existing Acts only applies to damage by game the right to kill and take which is vested neither in the tenant nor in any one claiming under him other than the landlord. As the tenant has a statutory right to kill ground game, he cannot under these sections claim compensation for damage by ground game, although in many cases, where he occupies land adjoining woods not in his occupation, it is impossible for him so to keep down the game as to prevent damage. We are of opinion that these sections should be enlarged so as to allow compensation from persons from whose land ground game comes and does damage, provided that the claimant has fully exercised his existing rights to kill ground game on his holding. The provisions of the 1908 Acts appear to have been largely inoperative; and, speaking generally, grievances relating to game preservation cannot be adequately met by the method of compensation. We have made recommendations under the heading Elimination of Pests and Weeds for dealing with the whole question in another way, which we believe are likely to prove more effective.

D. Freedom of Cropping and Disposal of Produce.

280. *Section 26, English Act; Section 23, Scottish Act.*—In order to meet the needs of districts where no custom obtains, tenants holding under no agreement should be required to farm their land fully and properly, and according to the accepted rules of good husbandry, during the last year of the tenancy; and in such a manner that the income may not be prejudiced either by the land not being left properly cultivated or cropped, or by there not being left thereon a sufficient quantity of hay, straw, or manure to ensure the continuity of economic management. For this purpose the out-going tenant should be required to give the first option to purchase at a valuation manure, hay, or straw, which he proposes to sell off in the last year of his tenancy to the in-coming tenant or the landlord.

E. Procedure.

281. In connection with the procedure laid down for the assessment of compensation complaints group themselves under two main heads. (1) the cost of and (2) the delay in arriving at a settlement, and we have endeavoured to meet these complaints by the suggested amendments to the Act which follow. But we are of opinion that the Act is capable of improvement in connection with the notices which are required to be given under various sections, and we therefore suggest amendment in this respect also.

282. We recommend the following amendments in procedure:—

- (a) That no arbitrator should be permitted to appoint a clerk without the permission of the Board of Agriculture.
- (b) That when the Board of Agriculture is requested to appoint an arbitrator it should order claims and counter claims with answers to objections, and particularly any objections based on questions of law, to be lodged with them.
- (c) That thereafter it should appoint an arbitrator with or without power to appoint a clerk and legal assessor, it being understood that such power would not be granted unless a question of law were disclosed at the outset or the claim was complicated, but with right to the arbitrator to re-apply should a legal question subsequently emerge.
- (d) That the Board of Agriculture should prepare and issue to arbitrators specific directions regarding procedure in arbitrations together with a set of arbitration forms.
- (e) That no appeal on a question of law should be allowed where the sum awarded does not exceed £100.
- (f) That all claims should be submitted in detail not later than one month after the expiration of the tenancy.
- (g) That in the event of claims by either party remaining unsettled three months after the termination of the tenancy, the matter should stand referred to a single arbitrator to be appointed by the Board of Agriculture.
- (h) That where settlement is delayed, the arbitrator should have power to direct payment of such a sum on account as he considers justified by the circumstances.
- (i) That sums awarded in respect of dilapidations should be separately set out and awarded to the landlord. They should not be treated merely as a set off against payments to the outgoing for tillages, manures, &c., instead of being made available for repairing the neglect in respect of which they are awarded.

283. We make the following recommendations with regard to notices:—

- (a) The landlord should have an absolute right to give notice of an intention to claim compensation for the deterioration of a holding, and should not depend as at

present upon the preferment of a claim by the tenant for compensation for improvements. A notice by the landlord for this purpose should be submitted with details of the claim not later than one month after the expiration of the tenancy.

- (b) Notice to claim compensation for disturbance should be permitted up to not less than two months before the termination of the tenancy, instead of within two months after notice to quit has been received, as laid down in the 1908 Acts. In this respect the precedent of the 1914 Act should be followed.

F. Arbitrators.

284. It is stated that the settlement of tenant right valuations is sometimes entrusted to persons who possess neither the educational nor professional qualifications necessary to enable them to deal properly with matters requiring a considerable amount of technical and judicial training. It would not be practicable to limit the choice of either party in appointing his representative, but it is suggested that the Board of Agriculture might do much to raise the standard of those employed to make such valuations if it admitted to its list of persons eligible for appointment as single arbitrators only those who had achieved certain definite qualifications. We commend this suggestion to the attention of the Board. The case is different in Scotland, where professional associations requiring a recognised examination or practice qualification for membership are less general, and we, therefore, make no corresponding suggestion to the Scottish Board of Agriculture.

G. First Schedule. Part I.

285. We are of opinion that some means should be adopted for enabling necessary improvements comprised in Part I of the First Schedule to be executed in the event of the refusal of the landlord to give his consent, or his inability himself to carry them out. We have in mind particularly items (8) water supply, (9) fences, and (13) reclamation of waste land. We recommend either that the tenant should be given the right of appeal to the Board of Agriculture, which should remit the case, if of importance, to the Panel of Assessors described in paragraph 54 of Part I. of this Report, or, if not of importance, to the Agricultural Committee of the County, whose decision should be final. If this course is followed the items should be left in Part I. Alternatively the items might be transferred to Part II and an appeal to the Board of Agriculture be allowed on the part of the landlord against their execution.

H. Second Schedule.

286. *Rule 10.*—In our opinion the time laid down within which the payment of the money awarded as compensation must be made under the award is longer than necessary. We recommend that the Rule should be amended so as to require the award to fix a day for payment within one month after its delivery.

Rule 14.—It has been represented to us that a deadlock, causing friction, not infrequently occurs through default in taking up the arbitrator's award, and that the difficulty might be met by making the parties jointly liable to the arbitrator for his costs and expenses, without prejudice as to the party upon whom they would ultimately fall under the award. The point is one to which, we think, the Board of Agriculture might with advantage give consideration.

I.—General.

287. *Section 8 (3).*—In view of the rise in the interest commanded by capital, this subsection needs amendment. The rate allowed in respect of interest on capital and for the purpose of sinking fund should be raised to the level at which the landlord can borrow money.

Section 23 (iii) delete "for labourers."

Section 35 (3).—Our attention has been drawn to a case in which the landlord of a mortgaged property was bankrupt at the time the tenancy terminated, and the mortgagee entered after the quitting and foreclosed, with the result that the tenant lost the compensation due to him for tenant-right. To meet such a case we recommend that section 35 (3) should be made of general application so far as it applies to compensation for improvements.

Section 40.—We are of opinion that occupiers of glebe land should not be placed in a worse position than other occupiers of agricultural land with regard to notices to quit under Section 22 of the 1908 Act, and we therefore recommend that the provisions of Section 22 should be extended to cover tenancies of glebe land on change of incumbent.

288. It has been suggested to us that, when a mortgagee takes possession and gives notice to an occupier, the occupier has not the right to claim compensation for unreasonable disturbance under Section 11, but we are informed by the legal authority which we have consulted that that is not so, and that, if the notice to quit is given without good and sufficient reason, compensation can be claimed from the mortgagee in possession as "the person for the time being entitled to receive the rents and profits of the land." In this connection we wish to state that when the Board of Agriculture has taken over the management of a mortgaged and ill-managed estate, as proposed in Part I of this Report, and finds it necessary to raise a Land Improvement Loan for its industrial equipment, the interest on which by taking precedence will leave an insufficient margin for the interest of the mortgage, we consider that it ought to give notice of its intention to the mortgagee and give him the choice between foreclosing at once and continuing to run the risk of losing part of his interest.

J. Market Gardens.

289. We have received evidence from the representatives of intensive cultivation, especially in connection with the present position of market gardens and fruit farms. Theoretically the relative obligations of the owners and tenants of market garden land are fully and satisfactorily settled by the Market Gardens Compensation Act, 1895, as amended by the Agricultural Holdings Act, 1908; but practically this is not so, because, as we have been informed, since 1909 it has been impossible for a tenant to obtain a lease or agreement in respect of market garden land, except in the Evesham district, unless he contracts out of the provisions of the Act. It was frankly admitted to us that the attitude of the owners is not unnatural or unreasonable in view of the excessive and quite unreasonable awards in respect of compensation given against them by certain arbitrators in cases where the tenants had deliberately farmed, not with a view to intensive cultivation, but with a view to creating a claim for compensation. In these cases no incoming tenant would pay the compensation awarded, and the owner had, therefore, to pay it. And yet the witnesses for the intensive cultivators agreed that the basis of compensation under the Act, the value to an incoming tenant, was the right and, indeed, the only fair basis.

290. Thus a deadlock exists for which a solution must be found. There is not an unlimited scope for the extension of market gardens; but clearly there is a scope for extension, and equally clearly it is to the interest of the community and essential for the development of the full productivity of the soil that where there is a scope for the development of market gardens there should be no check on the utilisation of the land for this purpose.

291. There is a clear and definite distinction between market gardens and other classes of agricultural land, which makes provisions which may be applicable to that one class of holding quite inapplicable to other holdings. The industrial equipment in the shape of buildings, fences, drains and roads required of the owner in the case of market garden holdings is small, while the capital embarked by the tenant in the cultivation may easily equal, and sometimes exceed, the capital value of the land itself and of its industrial equipment. In the case of an ordinary agricultural holding of (say) 500 acres the capital invested by the tenant will not exceed £5,000, but the capital invested by the owner in the industrial equipment of that farm in buildings of all sorts, drains, fences, roads and water supply may easily amount to as large a sum apart from the value of the unequipped land.

292. We enquired whether the cases of hardship were common when a tenant of market garden land, whose agreement included a clause contracting out of the provisions of the Market Gardens Compensation Act as amended, received notice to quit from his landlord, and we were informed that such cases very seldom occurred except when the land had become ripe for building and the landlord desired to regain possession of it for the purpose of letting it on a building lease. The witnesses who appeared before us expressed the opinion that, where a landowner has to carry the risk of compensation on the scale inevitable in the case of market gardens, he was entitled to receive a higher rent for the land than he would obtain in ordinary circumstances, but they contended that it was not just that the tenant should lose the compensation he would otherwise receive from an incoming tenant if he quitted his holding, because the land became devoted to habitations instead of to agriculture.

293. Our attention was particularly drawn by them to the custom prevailing in the Evesham district, which they asserted solved the problem with impartial justice to landlord and tenant. The following extract from a farm agreement embodying the Evesham custom was placed before us:—

"This land is not let as market garden land, nor is it to be treated as such, but in the event of the tenant making any of the improvements specified in Section 42 of the Agricultural Holdings Act, 1908, the landlord will not object to the tenant making them on condition that:—

- (1) In the event of the tenant giving the landlord notice to quit, the tenant shall make no claim against the landlord for compensation;
- (2) That in the event of the tenant wishing to give up his holding without giving notice to quit he shall have the option of introducing an approved incoming tenant with whom he shall make his own arrangement as to compensation, and
- (3) That in the event of the landlord giving the tenant notice to quit the landlord will pay such compensation for improvements as could have been obtained under Section 42 of the above Act if it had been agreed that the same should apply to the tenancy.

"The tenant shall not, nor will, underlet, assign, or otherwise part with the possession of the said land or any part thereof to any person or persons whomsoever, for any period whatsoever, without the consent in writing of the landlord or his agent first obtained, but such consent shall not be unreasonably or arbitrarily withheld.

"That if the tenant shall neglect or fail to abide by, observe and perform the stipulations hereinbefore contained, and on his part to be observed and performed, or any or either of them, or if he shall abandon the said land or permit the same to remain uncultivated for the space of one calendar month or upwards at any one time, or if the tenant at any one time hereafter cease to reside within three miles of the said land, or if his rent shall be in arrears and unpaid for the space of one calendar month after either of the half-yearly days of payment thereof, then and in either of the said cases the tenancy so agreed upon, shall absolutely cease and determine saving all remedies to the landlord for breach of this agreement (which he would have had in case

the tenancy had continued) and the landlord may appropriate to his own use all the trees, crops and buildings on the said land without giving any compensation to the tenant in respect thereof and the landlord shall be at liberty to re-enter on the premises and all occupiers thereof to expel and remove."

294. We have referred to the Report of the Departmental Committee on the Fruit Industry of Great Britain, 1905 (Cd. 2589), and we desire to draw attention to (9), (10), (12), and (13) of the summary of their recommendations on page 37.

"(9) It is further suggested that, in cases where a tenant gives notice to quit, he shall not be entitled to receive compensation unless he presents to the landlord a successor who is willing to take over the holding at the same rent; that in the event of his so doing, and the landlord accepting his nominee, the compensation be paid directly by the new tenant to the old tenant, but that the landlord have the right to refuse to accept the out-goer's nominee, in which case he must pay compensation to the out-goer under the provisions of the existing law.

"(10) That the Board of Agriculture should appoint experts in fruit valuation, and should call them together for the purpose of formulating general rules for estimating the amount of compensation to be paid to an outgoing tenant of a holding under the Agricultural Holdings Acts on the basis of the value to an incoming tenant.

"(12) That it would be to the advantage of landowners and tenants in fruit districts if, under the provisions of Section 5 of the Agricultural Holdings Acts, 1883, they settled the basis of compensation by the 'particular agreement' therein referred to.

"(13) That a Bill should be passed for facilitating the purchase of small holdings by tenants with assistance from public funds, somewhat on the lines of the measure brought in by the Rt. Hon. Jesse Collings, M.P., in the session of 1904."

295. No. (9) is tantamount to a recommendation of the Evesham custom. No. (10) has in the light of experience been shown to be necessary, and we desire to endorse it. We shall make a recommendation to meet No. (12), and we have already in previous paragraphs of this Report endorsed No. (13). It seems to us peculiarly appropriate that tenants whose financial interest in their holding equals or exceeds that of their landlord should be encouraged and assisted to acquire its freehold.

296. We recommend that in the case of all leases or agreements made after the passing of an amending Act, in respect of holdings to which the provisions of Section 42 and the Third Schedule of the Agricultural Holdings Act, 1908, are intended to apply, the Evesham custom, as described above, shall (except in respect of the denial to the tenant of the right to live outside a three mile radius from the holding) be substituted for the provisions of the Agricultural Holdings Acts, 1908, but the improvements in respect of which compensation can be claimed under the Evesham custom shall be those, and those only, which are specified in the Third Schedule of that Act.

297. The effect of this substitution will be that, if the tenant wishes to quit the holding he must find a tenant willing to succeed him and to pay compensation on entering to an amount to be agreed between them, and that, if no successor be forthcoming, the landlord is relieved of any liability to pay compensation.

298. If, on the other hand, the landlord chooses to give the tenant notice to quit and can find no successor willing to pay the outgoing tenant the compensation he claims, or if he unreasonably or arbitrarily refuses to accept as an incoming tenant the person who is willing to pay the outgoing tenant, who has given notice to quit, the compensation he claims, then he will himself become liable to pay compensation to the outgoing tenant on the principle laid down by the Act, viz., the value to an incoming tenant.

299. It has been pointed out to us, however, that it will be necessary to deal with particular agreements such as exist in Essex. In such cases landowners and tenants would, with a full knowledge of all the circumstances, enter into an agreement for land to be used for market gardening purposes on terms mutually satisfactory to each party, but for the fact that at the termination of the tenancy such an arrangement is liable under the Act to be upset on the ground that the terms agreed upon did not constitute fair and reasonable compensation in lieu of that authorised by the Act. We propose that where the parties are prepared to enter into any such agreement, they should be permitted to apply to the Board of Agriculture to submit the proposed terms to an assessor appointed from the Panel recommended in Paragraph 54 of Part I. of our Report. Should the terms be approved by him they should be allowed in substitution for the Evesham custom and have effect as though laid down under the Act.

300. There remains the further and most difficult case of a definite refusal on the part of a landowner to allow land to be used for market gardening where there are at any rate reasonable *a priori* grounds for thinking that it is in the national interest that it should be so used. In such a case we recommend that the tenant should have the right of appeal to three members of the panel of assessors, each party being given full opportunity of stating his case. The three assessors should be appointed by the Board of Agriculture following the procedure laid down in Paragraphs 54 and 55 of Part I. of our Report. Such an appeal, however, should only apply to the planting of fruit bushes and trees and to ordinary market garden cropping. It should not give the tenant, if successful, the right to erect glass houses and require the incoming tenant or owner to take them over on the termination of the tenancy. The assessors chosen from the panel must be informed that their decision in such a case must be based on the opinion that there is no other equally suitable land available by agreement, and that the land in question is so specially suitable for market-gardens purposes, when regarded from the point of view of site, climate, soil, and market facilities, that it is clearly to the national interest

that it should be so used. If the decision of the assessors is in favour of the tenant's application, then the land in question should henceforth come under the provisions of Section 42 of the Agricultural Holdings Act as amended according to our recommendations, whether let to that particular tenant or not. The effect of this provision would be that the owner would let the land at a fair rent, as otherwise he would have it in hand. He could not let it to another tenant as ordinary agricultural land, because the land having been scheduled as market garden land, any tenant could use it for that purpose and claim compensation under Section 42. It would, therefore, be to the owner's interest to let it to the man who would give for it the best market garden rent. If the owner decided in the circumstances to keep the land in hand and did not turn it to the best national advantage, then the provision for applying pressure suggested in Paragraph 56 of Part I. of our Report could be brought into operation, and he would lose control over this land unless he himself cultivated it as a market garden. Since the increase of food production has become a matter of national security and welfare, such pressure will have become justifiable in the case of land which, in the opinion of competent assessors, is clearly marked out as specially suitable for market gardens.

301. Finally, we are of opinion that the undeveloped land duty should be reconsidered in the light of experience in connection with market garden land near populous places. It is not in the interest of the community that such land should be withheld from buildings where houses are really required, but neither is it to its interest that market gardens should be handed over prematurely to the builder in order to escape this duty. It is sufficient if we indicate our opinion that an adjustment between two conflicting public interests is required.

302. It has been represented to us that the Agricultural Holdings Acts, even if amended as we suggest, would not give adequate security for the capital expenditure of tenants, and we can imagine that, while these Acts may sometimes give even excessive compensation in the case of bad or indifferent farmers, they may sometimes fail to compensate the best farmers in an adequate degree. It is on this account, as well as for other reasons, that we have urged the desirability of taking active measures to promote the increase of occupying ownership through land purchase.

RECLAMATION AND DRAINAGE.

303. The process of reclamation has been going on in Ireland for centuries, and is still in active operation. It almost always takes the form there of the removal of the top stratum of peat and the disclosure of a soil better adapted to cultivation. Each separate operation is a modest one, but the cumulative results are important. So far as we know no general survey has been made of Ireland with the special object of ascertaining whether larger schemes of reclamation of a different kind could advantageously be undertaken, nor has any attempt been made to carry out the reclamation of the land from which peat has been removed by modern methods, utilising the resources and knowledge which science has put at our disposal. The drainage question on the other hand, both arterial and local, has always been a question of the greatest importance to Irish agriculture. Much good work has been done, but other work has been unsuccessful owing to its limited scope or to faults of engineering. The subject has hitherto only been dealt with in a piece-meal fashion.

304. Since the issue of the Third Report of the Royal Commission on Coast Erosion, the Reclamation of Tidal Lands, and Afforestation, in 1911, much information on the subject of land reclamation has been accumulated by the Board of Agriculture and Fisheries, and the Development Commissioners also have since their institution in 1911 given much attention to the subject. One of their number, our colleague Sir Daniel Hall, has made a special study of the problem of land reclamation, and the opinions he has formed are so clearly expressed in the memorandum which he laid before the Departmental Committee on the Settlement and Employment of Soldiers and Sailors on the Land, and it presents such an admirable exposition of the possibilities of land reclamation from the point of view of its advocates, that we make no apology for reproducing it here.

MEMORANDUM ON THE RECLAMATION OF LAND, by SIR DANIEL HALL, K.C.B., M.A., F.R.S.

The area of land under cultivation in England rose year by year from the date at which exact records begin up to 1892; since then, it has declined similarly year by year, about 500,000 acres in all having been lost. In the main, this loss represents urban encroachments which have no longer been balanced by the work of bringing into cultivation of portions of the margin of waste still existing in the country. The work of reclamation, which had been most active towards the middle of the last century, proceeded in two ways, occasionally as a landlord's enterprise on a large scale, but more generally as the tenant farmer, with or without improving leases, gradually drained and cleaned up the rough land adjacent to their holdings. The process stopped with the great fall in agricultural prices; the cost of the labour to clear the land ceased to be repaid by the value of its produce, for at that time labour was the main, almost the only, item in the cost of reclamation, and no new factor had arisen to alter the situation. In Germany, however, the march of events has been very different; the cultivation of the waste land—moor and heath—has been taken in hand in increasing areas year by year. For example, in the small province of Oldenburg, about an average of 30 settlers per annum were placed on reclaimed land between 1901 and 1910, but the numbers rose to 130 in 1910 and 191 in 1911, each settler possessing some 20-25 acres of land that had been added to the cultivated area. So convinced of the economic soundness of the process had the State become that in 1913 the Prussian Diet sanctioned a loan of 1½ millions sterling, half of which was to be devoted to State schemes of reclamation, 1,500,000 to drainage, and 500,000 to be used in subventions to provincial schemes of reclamation. This contrast between the action of the two countries is not to be accounted for simply by the difference in fiscal policies and the higher prices for agricultural produce ruling in Germany; it is the result due to the fact that the Germans had studied the problem and were employing modern resources both in the way of knowledge and materials to the treatment of the land. The same process has been going on in the free trade countries of Holland and Belgium. In Great Britain no advance had been made upon

the methods in vogue at the beginning of the nineteenth century, the land was drained where necessary, the rough vegetation was burnt off, the soil broken up, the only treatment other than mechanical being a dressing of lime. Once cleaned, the land was put under the ordinary crops, with, as a rule, extremely poor results for many years, though eventually, by dint of perseverance and an annual expenditure that was in the aggregate considerable, though perhaps not large in any one year, the land accumulated fertility and became a paying proposition, like the little farms one sees everywhere hithen out of the waste on the banks of the New Forest, on the Bagshot Heath, and the Surrey wastes. The German land reclaimer, on the other hand, have recognised that the natural infertility of the heaths and moors is in the main due to their deficiency in mineral salts—lime, phosphoric acid, and potash—and after the mechanical operations of drainage and clearing had been effected they set themselves to remedy this deficiency by an initial expenditure on fertilisers that would appear to a farmer enormous for such land, but without which even a moderate crop cannot be grown. In this way the land at once becomes capable of yielding a living return for the labour of cultivation, the initial outlay on basic slag and kainit proves to be much less costly than the recurring losses involved in growing crops with no special manuring until some sort of fertility is built up. Indeed, in many cases one sees that the existing farms reclaimed from the heaths in Great Britain are still suffering in part from their original deficiencies: their productivity is at a low level, because even after half a century or more of cultivation the soil is still short of lime, phosphoric acid, potash, sometimes of one constituent, sometimes of all three.

It is necessary to emphasise this general statement—that land reclamation as practised in Great Britain has never taken into account the chemical constitution of the soil and its possible rectification by cheap mineral fertilisers, largely because the process was already falling into disuse by the time those fertilisers became available, and because few landowners have had sufficient confidence in the situation or faith in science to embark capital on agricultural enterprises during the last 30 years. It is for this reason that such accounts as are available of the costs of land reclamation in England afford no guidance to the possibilities that are open. They sometimes show good results where the land was initially healthy, as on Lincoln Heath, or where plentiful supplies of towns refuse were available, as in Cheshire, Bedford, or parts of Surrey; elsewhere they have been unimpressive and have led to the widespread tradition that the most rainsons of all proceedings is to try to turn bad land into good.

Before discussing the different types of waste land that are capable of reclamation in Great Britain, it is perhaps advisable to render the terms more precise by excluding those forms of improvement that may be regarded as within the scope of a tenant holding a lease of reasonable duration. Many examples of rough waste land occur that can probably be brought into cultivation by ordinary means, e.g., fields of clay land overgrown with briars and brambles, which only require cleaning and draining, with a dressing of basic slag, to convert them into decent grass land. The term "reclamation" is better reserved for such cases as involve a preliminary expenditure of capital on a scale comparable with or greater than the initial value of the land, and begin with certain defined operations which are apart from the ordinary routine of cultivation. Reclamation deals with land, the initial value of which lies between £1 and perhaps £7 per acre as an upper limit, and the outlay before the land can be let for ordinary farming may be as high as £7 an acre, irrespective of buildings and roads.

In Great Britain opportunities for reclamation on a reasonably large scale are to be found as follows:—

- (1) *Salt Marsh and Mud Lands under Water at High Tide.*—While no great area of this debatable ground exists, payable areas ripe for reclamation are to be found in many of the estuaries of our rivers, particularly on the East Coast. Round the Wash the process has always been going on and could now be resumed with advantage; other areas have been examined in the Dee Estuary, the Firth of Forth, Cromarty, &c. The process is well understood; it consists in throwing up a wall round the area, embanking any streams and providing them with outlets, cutting drainage channels and providing them with sluices to discharge at low water or with a pumping station. In the Eastern Counties experience has shown that it is rarely wise to embark land that has not already been so far built up by natural actions as to have acquired a green covering of vegetation. The embankment is comparatively costly in labour and varies with the size and shape of the area, but the land gained is nearly always of high quality, worth from £30 to £50 an acre. Perhaps the chief obstacle to the prosecution of such work is the uncertain nature of the title to areas of this kind. In the main the property resides in the frontager; the Crown possesses certain ill-defined rights but rarely can make use of them except to deal with the frontager, the more so as the strip to be reclaimed is often only accessible by leave of the frontager.
- (2) *Areas of Blown Sand adjoining the Sea.*—On the coast of North Wales several large areas of this kind are to be found; next the sea comes a line of dunes, behind which is a comparatively level stretch covered with rough grass and rushes, the soil being almost pure sand. To reclaim these areas the dunes have to be fixed by planting with Austrian pine, grass, elder, marram grass, &c., a few drainage cuts are often necessary, then the light soil is readily brought under cultivation. This type of land is well suited for market garden cultivation, both by its ease of working and proximity to the sea, provided that it is liberally supplied with phosphatic and potash manures at the outset. Some of these areas contain a certain proportion of strong alluvial soil adapted to corn growing and akin to the valuable land adjoining the Wash and the Humber. The cost of the preparation of the land for cultivation is low, but the charges to be met depend in each case upon the proportion the cultivable area bears to that of the dunes requiring fixing. In some cases too high a price is demanded for areas of this kind capable of profitable reclamation because of their possible value of development as seaside estates.
- In character intermediate between this type and that previously described are certain areas that are neither links nor salt land. In one case there lies about six square miles of land that only commands a few pence per acre for rough grazing, in part strong alluvial soil, in part peaty and elsewhere sandy, a large proportion being subject to flooding at high spring tides. The work required is embankment, drainage, possibly a pumping station, and special manuring on the peaty and sandy portions of the area, but the cost would be small in proportion to the ultimate value of the land to be gained for cultivation.
- (3) *Heath.*—In England there exist comparatively large expanses of unstocked sandy heath, now covered with a valueless vegetation of heather or bracken and worthless grass. Such is the "heath" land of Norfolk and Suffolk, other heaths further south in Suffolk, land upon the Bagshot Sand formation and Lower Greensand in Surrey, Sussex, and Hampshire, the Dorset heaths, &c. The reclamation of this type of land has been reduced to a system in Germany; after drainage where necessary, the clearing of shrubs and bushes and levelling of any mounds or banks, the surface is pared and allowed to rot for a winter, or if a meadow is to be formed, a tilth is obtained by continued cultivation with implements of the disc type. At the same time about 2 tons per acre of chalk or its equivalent, 5 cwt. per acre of kainit and 5 of basic slag, are worked in as the fundamental preliminary dressing, these quantities being increased if a meadow is in preparation. For a meadow a special mixture of grass and clover seeds are sown directly on to the shallow worked surface with surprisingly good results. For the arable land the best preparation is to grow a crop of lupins the first year and turn that in, thus increasing the stock both of nitrogen and humus and binding and adding to the water-holding capacity of the soil. Afterwards the land will grow all the cereals, especially rye and oats;

In conclusion, it should be said that the full value of reclamation schemes is only apparent after the lapse of time, the true capacity of the land is only attained after many years of cultivation, the best use to which it can be put in any district are only learnt by experience. Many of the advantages also are indirect: the land won is then gain to the cultivated area, so previously existing labour is displaced, the increased population provided for, the absolute addition to the production of food and to the wealth of the nation both by the commercial exchanges promoted and the new contribution of rates and taxes.

305. Great attention also has been paid to this subject by Sir Sydney Olivier, K.C.M.G., late Permanent Secretary, and by Mr. T. H. Middleton, C.B., Assistant Secretary of the Board of Agriculture and Fisheries, and, although they do not differ substantially from Sir Daniel Hall in opinion either as to the attitude which the State should adopt towards this question, or in their practical conclusions, yet they utter a note of caution to which we think it right to give place in this Report.

306. The following quotations are extracted from a Report drawn up by Sir Sydney Olivier and Mr. Middleton in response to a request from our Chairman when he was President of the Board of Agriculture and Fisheries:—

"From the purely agricultural point of view it would be unwise to regard the adoption of a programme of land reclamation as a matter of primary importance. Having regard to the extent of land that has gone down from arable cultivation during the last 35 years, it is clear that the application of whatever amount of capital and labour may be available to lands already nominally in cultivation would produce, if such application could be effected within, say, five years from the end of the War, a more rapid and substantial increase of the food supply than could the application of a similar amount of capital and labour to any extent of land which it would be practicable within the same period to 'reclaim,' whether it be estuarine land or land which has remained waste on account of its natural barrenness.

"For the purpose of increasing the national food supply, land already in hand has the great advantage over 'waste' land that it is already largely capitalised, and, more important still, is already equipped and provided with a trained directing staff: the whole of such a staff would have to be provided for added land. An increase of 1 acre in 20 on every farm in England and Wales—requiring in each case a trifling effort of the farmer—would add 550,000 acres to the total under the plough.

"From this point of view, therefore, it would not appear economical for the Government to invest large sums of money or to expend much administrative energy on a programme of land reclamation, except to a certain extent, as part of a programme for the afforestation of waste poor lands available in large areas and suitable for planting, of which there is unquestionably a very considerable extent. In connection with such a programme of afforestation, a certain amount of agricultural reclamation and settlement might be conveniently and economically effected, and would be advantageous and indeed indispensable.

"It has been estimated, on the basis of observations made in connection with the work of the Land Reclamation Society, that (assuming that the Government were to set up an agency to frame proposals for reclaiming all land that offers any possibility of such treatment) it would be easy to find as much as 250,000 acres of suitable land in Great Britain.

"If no regard need be had to limitations of practical policy, this estimate is, we think, unnecessarily moderate. If such limitations must be regarded and attention paid to the category of time, we think it is too high.

"A small proportion of the area in mind would consist of estuarine lands, the reclamation of which, if they are properly chosen, may be regarded as likely to add to the food supply and to increase demand for labour; but they are not attractive for residential settlement.

"As regards the far greater proportion of the lands viewed as reclaimable, they are sandy or peaty wastes which it would be proposed to dress heavily with lime and complete chemical fertilisers before they can be offered as available for profitable farming.

"Though this method has not yet been experimentally proved in England, there is plenty of evidence that the treatment proposed has produced useful farming land in Germany, Denmark, and other North European countries, especially where the principal cereal crop is rye.

"If such lands can be made cultivable, they have the advantage that their light soil renders them easy to work. The countervailing risks attendant on light soils are familiar and need not here be enlarged upon.

"The grounds for confidence in this method viewed from the agricultural standpoint are sufficiently strong to make it appear desirable that the Government should at least embark in a test on a sufficient scale.

"The case for a reclamation policy appears from the foregoing considerations to be, from the agricultural point of view, somewhat speculative, but deserving of a fair and thorough testing.

"Without, however, desiring to moderate the agricultural promise of such reclaimed lands, we cannot but consider that it would be misleading to count upon being able to put on the market as much as 250,000 acres of new land which would attract farmers in preference to the land that agricultural experience has already led them to exploit.

"That experience indicates that the class of land proposed to be dealt with is likely to be the first to fall back into a neglected state under any stress of unfavourable markets. Merely as a physical proposition, the lighter the land the more continuous attention to manuring is required to keep it in fertile condition. There is no sufficient reason to presume that the farmers who would take it up will be more intelligent, thrifty, or persevering than those who have already allowed land, both of this character and of the opposite qualification of being noduly heavy, to fall into ruin.

"With all these reservations, however, it may be surmised with a good deal of confidence that as much as 100,000 acres of land might be so advantageously dealt with, and that such an area could be attacked within a reasonable period, say, 2 or 3 years from the date of the establishment of an organized agency for dealing with the project. And, as a reclamation policy, it may not be extravagant to hold that such an effort would be worth embarking on."

307. From Sir Robert Wright, Chairman of the Scottish Board of Agriculture, we have received a memorandum on Land Reclamation, wherein the opinion is definitely expressed that "There are large areas of land in Scotland suitable for reclamation," and giving a list of the schemes which have actually been under consideration by the Board.

308. In respect of Wales also we have received evidence from our colleague, Mr. C. Bryner Jones, M.Sc., from the Welsh Agricultural Council, from Mr. H. Jones-Davies, a Development Commissioner and County Land Agent for Carmarthenshire, and from other witnesses, which leave no doubt in our minds that in their opinion there is much reclaimable land in the Principality.

309. The difficulties in the way of land reclamation are beyond doubt formidable, but they are not, we believe, insuperable. We do not propose to dwell on the technical difficulties, because they are a matter for experts, and because we agree with Sir Daniel Hall that the advances in engineering science and agricultural chemistry, as shown by the reclamations accomplished in Germany and elsewhere, have greatly facilitated the solution of that aspect of the problem. The difficulties to which we must draw special attention may be described roughly as legal and financial. The following paragraphs are extracted from a memorandum presented to the Reconstruction Committee by the Development Commissioners:—

"It will be seen from Sir Daniel Hall's memorandum that the only scheme of reclamation, which is now being conducted by means of the Development Fund, is the improvement of some 200 acres of heath land in Norfolk. The reasons for this small result throw some light on the main obstacles which any large policy of land reclamation will be called upon to overcome. Apart from the legal limitations imposed by Parliament upon the employment of the Development Fund (such as the Commissioners' lack of executive power and the inability of the Treasury to make any advance to individuals or to companies trading for profit), the substantial difficulty is that of acquiring land, however apparently useless it may be, at anything but an exorbitant price, and without prolonged delay. The reclaimable area is often in several hands, and one or other of the parties concerned may be unwilling to sell. There may be rights of pasturage or turbarry to be acquired, and it is a lengthy and not always a possible process to estimate the value of all these claims beforehand. This kind of difficulty, perhaps, reaches its climax in the case of areas formed by accretion from the sea, where the question who is the rightful owner leads the acquirer into a legal domain, itself by no means reclaimed and settled. Even if the owners of a given piece of waste land are known, it is necessary, before the Government can decide to make an offer for it, that a survey should be made and in many cases an engineer's report obtained; without such information the Department often cannot estimate the cost of reclamation or consequently determine whether the scheme is worth pursuing. By the time these enquiries and surveys have been made, the owner or owners have discovered that the Government, or somebody connected with the Government, wishes to acquire the land, and the price rises accordingly. Purchases under the existing compulsory powers is likely to result in the award of a price which, with the legal costs involved, would destroy any hope of making the scheme a commercial success.

"A further example of the difficulties attending any attempt at immediate action is afforded by the reclaimable land on the shores of the Wash. From the mouth of the Welland to Gibraltar Point stretches a strip of marsh that has so far accreted from the sea as to be covered with grass, the area of which is variously estimated at from 5,000 to 10,000 acres. This is all "ripe" and can be profitably reclaimed, as the value of the resulting land would be as high as £20 an acre. The title appears to reside in the frontagers, though the Crown (the Duke of Lancaster and the Board of Trade) claims rights in parts as representing the Lords of the Manor. At a conference with sundry of the frontagers, it was made clear that, though the scheme as a whole would be profitable, no single frontager is likely to attempt any reclamation. Many of the frontagers are small men, and the enclosure of a single area of even 200 to 300 acres would involve extra expense and be subject to additional dangers. The frontagers would accept a general scheme which would give them the land subject to a rate to pay interest and sinking fund on the cost, they would also agree to the allocation of a certain area of the recovered land to the Crown or other authority carrying out the work. No authority exists to whom the scheme might be entrusted. If the frontagers could agree to promote a private Act constituting a body analogous to a Drainage Board, the necessary authority would be formed but the procedure would be slow, and the frontagers are unlikely to come together to provide for the necessary preliminary expenditure. There is no possibility under present conditions of getting to work on this obviously profitable scheme should a call for employment come at the close of the War.

"It will be gathered that in the Commissioners' opinion any large policy of land reclamation presupposes some reform of the law which will enable a Government authority to acquire land cheaply. It may be added that it is almost as essential to find means of preventing long delays before possession can be obtained even of land of which the prices does not go to arbitration. Under present conditions there will probably be an interval of about two years between the date when a reclaiming authority decides to reclaim a given area of land and the time when it can enter into possession and start work. It need scarcely be pointed out how this fact affects the question of reclamation works as a means of providing employment in a season of bad trade."

310. Sometimes the price asked for the land is apparently unreasonably high; often the cost and delay in obtaining possession by the process of the Lands Clauses Acts is prohibitive; and over and over again there is such a multiplicity of owners, not one of whom could by any possibility carry out the work alone, and of commissioners or others, interested in the area proposed to be reclaimed, that no existing authority can deal with it within any reasonable stretch of time or except at a cost which would preclude all chance of economic success from the operation.

311. In our judgment a case for reclamation and for the intervention of the State in effecting it has been made out. We are generally in agreement with the following extracts from the conclusions of Sir Sydney Olivier and Mr. Middleton:—

"We consider that, under present conditions, it is not safe to rely on wide generalisations, and that no quantitative programme of land reclamation can be formulated until an agency has been constituted to take up and investigate the merits of each proposition that presents itself.

"If and when a reclamation agency is established (which might be done on lines similar to those which must be followed in establishing an agency for afforestation), the question whether any particular area of land should be compulsorily taken for reclamation or for afforestation combined with agricultural settlement ought properly to be considered with regard to that area by a comparison of the returns that it promises to such reclamation with what the owner can claim as its utility under existing conditions. If the balance is then judged to be in favour of a project of reclamation, the question whether that project can be undertaken will have to be decided on further examination of what will be the cost of extinguishing or expropriating the existing private interests in the land.

"Before anything at all can be done, Parliament must set up such an agency, and determine whether it will give power to take lands compulsorily at its own discretion or only after a form of arbitration on the merits of each project.

"Parliament must also decide what factors of value in cases of compulsory acquisition are to be taken into account in assessing compensation in addition to the present value for cultivation or planting purposes.

"If such a competent agency is established, it should be enabled, within proper precautionary restrictions, to embark upon one or more schemes of experimental reclamation and cultivation of barren land on a fairly large scale."

Acquisition of Land for Reclamation Purposes.

312. We have been in communication with the Forestry Sub-Committee of the Reconstruction Committee as to the future method of acquiring land by public authorities; we are in substantial agreement with them, and believe that our views have already been communicated to you. It will be sufficient, therefore, if we repeat here that we have joined with the Forestry Sub-Committee in recommending that a special Sub-Committee of the Reconstruction Committee should at once be constituted to consider the different purposes for which land is likely to be required by the State or by Local Authorities, and to report as to the method by which land so required should be obtained and the basis which should be adopted for compensating the owners. This Sub-Committee should be composed of a few persons particularly qualified to advise on this very technical subject, and we have recommended that their terms of reference should be sufficiently wide to enable them to advise, if they think fit, a new procedure, not in the form of amendments to the Lands Clauses Act, but applicable only to cases in which the land was being acquired by public authorities for public purposes.

313. The subject of the employment of sailors and soldiers on demobilisation is not part of our reference, but, as reclamation has been freely spoken of in this connection, we think it only right to state that Sir Sydney Olivier and Mr. Middleton feel grave doubts whether reclamation can be largely utilised as a field of employment for demobilised sailors and soldiers, and that they point out that in any event there could be no hope for the success of such a scheme without long and elaborate previous preparation and organisation.

Drainage: Existing Acts.

314. We turn now to drainage, arterial and local, which, with the kindred subject of sea-defence, are matters of vital interest to landowners and farmers in many localities. There is much legislation dealing with this subject in a local aspect, affecting only limited areas or parts of a river, and often relating solely to one part of the problem, e.g., by providing for the maintenance of the banks of a river without any provision for the maintenance of the bed of the river in a condition to reduce to a minimum the pressure on the banks.

315. The general legislation on the subject goes back to the Bill of Sewers of 1531, which, as amended by the Sewers Acts of 1831, 1841, and 1849, to a great extent regulates the powers of Commissioners of Sewers and Drainage Boards at the present time. Though there are on the Statute Book a considerable number of Acts dealing with land drainage, it may suffice to refer only to the Land Drainage Acts, 1847, 1861, and 1914.

316. *Land Drainage Act, 1847* (10 & 11 Vict. c. 38).—The greater part of the Act deals with facilities for the execution by landowners of works of drainage or warping for the improvement of their land, but these provisions do not appear to have proved to be useful and no action has been taken under them for many years.

317. The Act provides also (section 14) that where, by reason of the neglect of an occupier of lands to maintain or join in maintaining the banks, or to cleanse and scour or join in cleansing and scouring the channels of boundary drains, streams, or watercourses, injury is caused to other land, the proprietor or occupier of such other land may, after giving the prescribed notice, execute the necessary works and recover the expenses, or contribution thereto, from the party in default. The Board of Agriculture found that the existence of this provision was almost unknown, and therefore issued a leaflet which is believed to have resulted in some use being made of the provision, but even if this should be done more frequently it would go but a little way to secure the proper drainage of a low-lying district.

318. *Land Drainage Act, 1861* (24 & 25 Vict. c. 133).—The main purposes for which Commissions of Sewers are appointed by the Crown and elected Land Drainage Boards are constituted under the above Act of 1861 (which first introduced the representative principle in these matters), are the making, maintaining, and improving of walls, embankments, and other defences of lands against inundation of the sea or overflow of rivers; and the maintenance and improvement of arterial drainage, that is, sewers or watercourses which carry off superfluous surface water; and the scouring thereof and removal of obstructions to the flow of water therein.

319. The Act of 1861 extends the powers of Commissioners of Sewers with regard to making new works, purchasing land, and borrowing money for the purposes of the exercise of their powers, the period for repayment being limited to 30 years. The Act also enables individual obligations for the maintenance of walls, banks, or sewers to be extinguished by commutation, thus paving the way for their maintenance by the Commissioners at the expense of the whole district benefited.

320. But the part of the Act which has been most effective is Part II., which enables the Board of Agriculture to constitute an elective Drainage Board for any area requiring a combined system of drainage, with all the powers of a Commission of Sewers. Advantage has been taken of this in many instances, but it would seem that the simplicity and comparative cheapness of the procedure has had the undesirable result of Drainage Boards being constituted for areas of quite inconsiderable extent, without any supervising authority to harmonise the operations of the various Boards.

321. But there are many more districts which were constituted Drainage Areas under Private Acts of Parliament previous to the passing of the 1861 Act. In some instances not only do these private Acts contain unsatisfactory and inefficient provisions, but interested persons are specially barred from being on the Boards of Management, which is totally opposed in principle to present ideas and to the spirit of the 1861 Act.

322. Moreover, much of the legislation which has been passed is ludicrously ineffective because a medley of different sets of Commissioners have been appointed to manage different sections of an area drained by a single river with the result that, holding widely different views of duty or policy, the action of one Commission has been rendered nugatory by the inaction of another. In connection with the area drained by the Ouse (Norfolk) there are, we are informed, 41 different authorities, a legislative feat worthy of a place in a Gilbert and Sullivan opera but cruelly disastrous to the people and agriculture of the fen country. The consequence is that great damage has been done to agriculture in recent years by recurrent floods and that the question is one clamorous for settlement.

323. The late Lord Thring, acting on behalf of the County Councils Association, introduced a Floods Prevention Bill into the House of Lords in 1898, and since then the same Bill has been reintroduced on several occasions in both Houses, but it has never passed. The matter was taken up again by the Central Chamber of Agriculture in 1904 and representations made to the Board of Agriculture and Fisheries, but no legislation has resulted except the temporary Land Drainage Act, 1914, under which the Board may by Provisional Order constitute bodies for the construction of land drainage works and give them certain powers. It is desirable that this Act, though it is insufficient to deal with all the problems of land drainage, should be continued in operation until the whole matter can be dealt with by Parliament in a comprehensive matter.

New Reclamation and Drainage Authorities Recommended.

324. In his evidence before us Dr. B. J. Russell, D.Sc., Director of the Rothamsted Experimental Station, laid great stress on the immense importance to agriculture of this question of drainage, and suggested "that for a large area, in certain cases a whole watershed, a drainage authority should be established which should be responsible for the drainage in the same way as the County Authority looks after the roads."

325. Land liable to damage from floods may be classified either as land liable to overflow water from rivers and streams due to faulty or inefficient banks, or to the absence of any banks, or as land liable to flood owing to the want of an efficient watercourse to take the water away. Similarly fields are waterlogged either because the drainage system has got out of order, or because there is no drainage system. Almost every witness who has come before us has raised this question in its narrower or wider aspect, and we have no doubt that the evil is very real and cries for a remedy, but it is clear to us that drainage and reclamation are two questions which merge into each other. We recommend that a Reclamation and Land Drainage Authority be established for each of the three Kingdoms as a new and separate division of the Department of Agriculture under the immediate control of its Parliamentary chief.

326. These authorities, which in each case might consist of two or three carefully selected Commissioners, should be specially charged with the duty of making a survey of the country from the point of view of possible reclamation and of obtaining the areas suitable for the purpose. They should further be empowered to obtain detailed surveys of selected areas, to prepare schemes for dealing with them, and to obtain such engineering estimates and other reports as would enable them to form an opinion on the prospects of the undertaking as a commercial proposition. Having obtained the consent of the Treasury to a scheme so justified, they should be the Authority to carry out the reclamation or to delegate it to some other approved body, to which and they should be given power to acquire the land compulsorily and speedily so that the work should not be delayed until all the legal processes had been finally exhausted.

327. If the ownership of the land in question is in one or two well-known hands, the owners should be given the opportunity of doing all the work themselves. If they are not able or willing to do so, they should be given the opportunity of contributing part of the cost and of receiving a proportional share of the profit of reclamation, and the same opportunity should be given where there are a larger number of definitely ascertained owners among whom combination for the execution of the work is impossible. Rights of commonage, if not satisfied by a money payment, could be exchanged for equivalent rights after the reclamation had been effected. Otherwise the Authorities themselves should prepare the plans and carry out the schemes. In England and Wales operations could be financed by the "Woods and Forests," the management of the agricultural estates of which we have advised should be absorbed into the Board of Agriculture and Fisheries, and the land when reclaimed could be added to and held as part of the Crown lands. Isolated plots of land, inconvenient to hold or manage separately, could be sold to the adjacent owner, such as a frontager in the case of an estuarine reclamation. There are also many isolated plots of land, which could profitably be reclaimed, but in respect of which in England and Wales each operation would be scarcely large enough to be undertaken by the Authority. In those cases, if satisfied from the results of the survey that the scheme was a sound one and economically profitable, the Authority could empower the County Council to carry it out, if it wished to do so, and to utilise the land for small holdings. As the Scottish Board of Agriculture is itself charged with the duty of creating small holdings in Scotland, it would probably be convenient that the reclamation of these isolated plots of land also should, if suitable for small holdings, be in Scotland executed by the Reclamation and Drainage Authority. Such schemes could be financed by the same methods as are now authorised by statute for the purchase of existing farms.

328. In the mountainous part of Great Britain in the course of years an important addition to the cultivated area of the country could be made, as in the past, by small reclamations from the hillsides made gradually and from time to time by the occupiers of the

adjacent farms. In paragraph 283 we suggest an amendment to the first schedule of the Agricultural Holdings Act which we think would tend to encourage this process.

329. The Authorities should have the power to constitute a local authority to take charge of the land drainage of a county or of a special land drainage district, or for a watershed, or for the whole course of a river, with full powers to execute all works necessary for uninterrupted drainage, and to levy rates on all property definitely benefiting from such drainage. So far as possible the Agricultural Committees of the counties concerned should be utilised in forming these local land drainage authorities.

330. It will sometimes happen that some special work, such as the removal of a serious obstruction at the mouth of a river, will be greater than the local authority can bear. In such cases it would be reasonable that the Reclamation and Drainage Authority of the country concerned should be empowered to apply to the Development Commission for a loan or grant for the execution of this special work, and that the Development Commission, if satisfied that the scheme is a good one, should give it.

331. In respect of all minor works of drainage the Agricultural Committees of the Counties should be made responsible for the general condition of drainage within their counties. They should have power to insist that the necessary watercourses and ditches are kept clear of obstructions, and where outfalls do not exist, to order the outfalls to be made. If their directions are not attended to, they should have power to carry out the work themselves, and to recover the cost from the defaulting owner or tenant. It should be within their discretion to delegate their power of supervision and direction, but not of execution, to Rural District, Urban District, or Parish Councils. At present there is a deficiency of knowledge or of accumulated experience in these islands both in respect of reclamation and of drainage, and the value of that which would be acquired, if the Reclamation and Drainage Authorities recommended by us are constituted, would be very important to agriculture.

DEER FORESTS.

332. We have considered the question of deer forests from the only points of view with which we are concerned, the increased production of food and the increase of the rural population. Sir Robert Wright, Chairman of the Scottish Board of Agriculture, informed us that, according to figures with which he had been supplied, there were in the year 1883, 1,710,000 acres of land devoted exclusively to deer forests and sport in the crofting counties of Scotland; that in 1912 this area had increased to 2,932,000 acres, and that outside the crofting counties there were 668,000 acres, making a total in 1912 of 3,600,000. In 1895, 320,000 acres of deer forest were scheduled by the Royal Commission on Deer Forests as being suitable for cultivation, and Sir Robert Wright thought it probable that the area had considerably increased since that date. He also thought that some of the more exposed of the mountain land scheduled might be kept profitably under wedder stock, while the lower land might be suitable for ewe and lamb farming. He did not think that the production of food from the land above the 1,000 feet level could be estimated at a high value, and attached more importance to the conversion of the land below that level into small holdings.

333. Mr. Norman Reid, a member of the Scottish Land Commission, emphasised the opinion that more altitude ought not to be taken as an indication that the land should properly be used for deer. The Deer Forests Commission of 1895 had looked at the question from the point of view of the small holder, and not from that of the greatest economic production. He agreed that there was land suited for deer but not for sheep, but he thought that a great deal of land now in deer forest would carry sheep, either in large farms or preferably under the Club System, and sometimes store cattle, or could profitably be planted. In his opinion land under sheep not only produced much more food and wool than under deer, but also carried a larger population. He agreed that a reason given for the creation of deer forests was that sheep farming had become unprofitable in the period of agricultural depression, and that the matter was complicated by the great cost to the land owner of taking over the sheep at their acclimatised value, but he thought the sheep rents had formerly been too high. He considered that the rents obtainable from sheep, combined with grouse, would compare favourably with the rents which had been commanded by deer forests, and that consequently there would be no loss to the counties in the assessment to rates by reason of the change. With regard to the gradual reintroduction of sheep, he anticipated no difficulty if the land were thrown open to them. They would increase and spread over the new land from the old land, thus obviating the necessity of any large and immediate outlay of capital in stocking.

334. Lord Lovat said that in the Highlands too much land was devoted to deer, but that there were serious difficulties in converting deer forests to other uses, and that methods of substitution must be carefully studied by persons who thoroughly understood those difficulties. It was not easy to secure tenants for high crofts and farms. The grazing value of Highland pasture had been deteriorated by the absence of cattle and the presence of sheep and deer, and draining had been greatly neglected. Lord Lovat said that, from the point of view of rent, land devoted to deer produced about five times as much as when let for sheep, that in the Highlands 40 to 60 per cent. of the rates was derived from land assessed on its sporting value, and that, as the rates were already very high, any sudden change in the incidence of rating would be a very serious matter. In his opinion deer forests on the whole carried a slightly larger population than sheep farms, but they produced much less food, and, of course, no wool. The reason for the conversion of so much land from sheep farms to deer forests since 1892 was in the first place

the assurance of the higher rent, and in the second place the very large sums which owners had had to pay to sheep farmers, who surrendered their tenancies, for the acclimatisation value of the sheep and their determination not to be so caught again.

335. Lord Lovat stated that deer forests could only be converted into sheep farms by extending the sheep runs from existing sheep farms or crofter grazings. To stock isolated forests with sheep would involve an enormous mortality among the unacclimatised stock. Moreover the amount of forest land which could be converted into sheep farms was strictly limited by the amount of wintering available in Scotland and by its comparative proximity. In his opinion the solution of the problem lay in forestry, combined with small holdings, and he considered that the higher and less profitable land should remain under deer except where it would carry Highland cattle, and that it was very important that experiments should be carried out to ascertain what further possibilities there were in the country for the wintering both of sheep and cattle.

336. We have carefully considered this evidence and we are of opinion that for reasons of national security and welfare it is necessary that as much of the land now devoted to deer forests as can be utilised for agriculture or forestry should be so utilised. Some of this land can be used for small holdings, some of it for planting, some of it for sheep runs, some possibly for store cattle, and some of it had best remain deer forest. But it is not possible by any generalisation to define the land which should be used for each of these purposes. We recommend that the investigation of this matter should be the work of a special branch of the survey already recommended by us in Part I of this Report.

337. The restoration of sheep farms would give a large increase of the meat supply and of the production of wool, but the process can only be slow and difficult owing to the cost of acclimatising new stocks of sheep. Therefore, we agree with Mr. Reid and Lord Lovat that the process should be gradually accomplished by the extension of existing stocks. It would be a great advantage if stocks of store cattle also could be carried on some of the forest areas, and we think it right to draw attention to Lord Lovat's suggestion, that the question of wintering arrangements should be thoroughly examined.

338. We are of opinion that Lord Lovat's caution in respect of the effect on the rates of the substitution of sheep farms for deer forests is justified. There will, therefore, be some advantage in the gradual nature of the process necessitated by the difficulties of acclimatisation.

339. In conclusion we desire to express the opinion that the surest way of increasing the production and the population of the Highlands will be by the adoption by the State of a national policy of afforestation and by the intermingling of plantations and small holdings.

ELIMINATION OF PESTS AND WEEDS.

340. The Irish Department of Agriculture has power in respect of the eradication of weeds and the suppression of plant diseases and a control over the sales of seeds which are not possessed by the English or Scottish Boards of Agriculture. It has power to enter all premises where seeds are sold and take samples; it can test these seeds at its Seed Testing Station and take effective measures to prevent the sale of seeds which are found to be impure. The Irish Department has also the power to punish a farmer who permits certain scheduled weeds to grow on his land, provided that the County Council of the county, where the farm is situated has consented to the application of the Act giving these powers to the county in question. The Department does not use its own inspectors in dealing with these cases, but acts through the Agricultural Committee of the County Council. We understand that it is satisfied with the powers it possesses except that it has not, but should have, power to increase the number of weeds contained in the schedule. We recommend that this power should be given to it. The eradication of vermin does not appear to be a troublesome question in Ireland.

341. No attempt has yet been made to deal with animal pests, such as rabbits, rats and sparrows, or with plant weeds, in a systematic manner in England and Wales or Scotland, and we are behind some of the Dominions and some foreign countries in this respect. We recommend that there should be legislation to prohibit the sale of grass and clover seeds without a guarantee of purity and of germination and of country of origin, and that power should be given to the English and Scottish Boards of Agriculture to enter all premises where such seeds are sold and to take test samples, and to prosecute, when the sample is found not up to standard.* The ultimate authority should in all cases rest with the Boards of Agriculture, but they should be allowed to act through the Agricultural Committees of the Counties. The Board of Agriculture should further be empowered to make and publish schedules of weeds injurious to agriculture or horticulture, and power should be given to the Agricultural Committees of the Counties to inspect land, on which weeds are allowed to flourish, and to order the occupier, including any local authority, to destroy them. It should be made an offence to neglect or disobey an order so given, and in case of negligence or disobedience the Agricultural Committee should have power to summon the offender, or to enter on his land and destroy the weeds and recover the expense of the operation from him. These powers may appear drastic but it is really intolerable that a bad farmer, or a careless landowner or local authority, should be allowed to grow great crops of weeds, the seeds of which are carried by the wind all over the surrounding farms, and so milder powers will in our opinion be effectual to abate the nuisance and the injury to food production consequent upon it.

342. Pests such as rabbits, rats and sparrows should be dealt with on the same principle. The Boards of Agriculture should be empowered to make and publish schedules of such animals injurious to agriculture, and the Agricultural Committees of the counties should have power

* Since this paragraph was drafted the Testing of Seeds Order, 1917, regulating the sale and exposure for sale of seeds, has been made by the Food Controller under the Defence of the Realm Regulations.

to take action in any case where those pests are injurious to agriculture and so to food production. They should be enabled to organise common action in the county to compass the destruction of these pests and to charge the expenditure on the rates of the whole county or of certain parishes in the county as the case may be. They should be empowered to order an occupier to destroy the pests issuing from his land, and it should be made an offence to neglect or disobey such an order. In case of default they should be empowered to summons the offender and to enter on his land and destroy the pests themselves and to recover the expense of the operation from him. In the case of damage done to crops by an excessive preservation of game they should have power, after satisfying themselves of the circumstances of the case, to order the game preserver to abate the nuisance and the penalty for failure in compliance should be a severe one.

343. If the Agricultural Committee of one county has a grievance against the Agricultural Committee of another county on the ground that its agriculture is being injured by weeds or pests emanating from an adjoining county, and that after complaint made no redress has been afforded, it should have a right of appeal to the Board of Agriculture, whose decision should be final.

344. Much damage is sometimes done to agriculture in a county by pests, such particularly as rats and sparrows, which are not bred within its confines but which issue forth at certain seasons of the year from neighbouring towns or cities, especially in the case of rats from great sea ports. It is not fair to agriculture that this should be so, and we think that those towns and cities should be made responsible for doing all in their power to abate the nuisance, and that the Local Government Boards for England and Wales and for Scotland should endeavour to find a remedy for a very real grievance.

345. We are convinced that the method we have proposed, that is through action of a public authority, is the right way of dealing with this problem. The only alternative, which has ever been suggested is to allow one private individual to enter upon the land of another for the purpose of remedying a grievance of which he complains. Few men are impartial judges in their own cause, and in any event friction and ill-feeling are such certain results of any such action that comparatively few men would care to take advantage of the privilege if it were granted to them, and the remedy would therefore prove ineffective. In our opinion the Agricultural Committees of the Counties, if constituted according to our recommendation, will be exactly such bodies as can be safely entrusted with the powers proposed. They should be enabled, if they think fit, to act through District or Parish Councils, or to appoint officers of their own for these purposes.

SUPPLY OF ARTIFICIAL MANURES.

346. We have endeavoured to ascertain what will be the position after the war of the supply of artificial manures for agricultural purposes, and we have summarised the result of our enquiries in Appendix XIII. Unless the estimates, which we have received, are falsified by the shortage of shipping or by the formation of combinations or otherwise, the position will be satisfactory.

WEIGHTS AND MEASURES.

347. British agriculture has suffered from a minor, but at the same time very real disability, in the extraordinary diversity of weights and measures applying in different parts of the country to the sale and purchase of agricultural produce. Three systems of weights and measures have legal authority in the United Kingdom, (a) the Imperial Standard Weights and Measures, (b) the Cental (100 lbs.) with the imperial pound as unit, and (c) the Metric System, of which the first named is the more generally recognised; but apart from these, local or customary measures, without legal authority but in common use and differing from each other to a greater or less degree, are found in almost every county or district. The result is confusion, misunderstanding, and ground for minor litigation, which are detrimental to the industry, and which place the producer at an obvious disadvantage in his dealings with those more experienced in market operations.

348. In no other industry does such a chaos of different units, such a multiplication of divergent standards, exist. In some cases their origin is lost in antiquity, in some they were introduced by settlers from abroad, while in others they were based on local custom, reasonable and convenient enough, perhaps, at a time when communication between districts was difficult and meagre, but entirely out of place since modern facilities of transit have opened every market to the producer. There are, at the present time, something like 25 local measures or weights used in the sale of wheat alone; while 12 different bushels, 3 different hundredweights, 7 different gallons, 13 different pounds, 10 different stones, and 9 different tons, are known to exist.

349. As an indication of the confusion caused by this plethora of standards, the following extracts from a discussion on the subject at the Farmers' Club, in 1911, may be of interest:—

"I bought some seed wheat a little while ago at Birmingham, and I thought I was buying it at 18 stone. I found out afterwards that it included the sacks, and I only got 17 stone 10 lbs. Every sack of wheat was 4 lbs. short, but I could not say anything, because that was the standard on the Birmingham Market. I went on to Stratford-on-Avon and found the farmers were selling wheat at . . . per bag, which is three bushels. Anyone taking the 'Mark Lane Express,' who is not quite up to the game, would be absolutely dumfounded to see what we have to go through in order to find out the price per ton at which any marketable agricultural produce is quoted."

And— "In one farm in which I am interested, I found we had to sell milk by the barn gallon, which for a time, in my innocence, I thought represented two imperial gallons. Being doubtful on the point, I measured a barn gallon one day and found that not only were there 2-125 imperial gallons to the barn gallon, but I found that when the cream was supplied by the man who bought the milk it was not accurately gauged on all occasions."

And— "In Worcestershire plums are sold by the 'pot' of 72 lbs., in Middlesex and Kent by the half-bushel, which is sometimes 36 lbs. and sometimes 24 lbs.; you are supposed to get 40 lbs. of apples to the bushel, but in some kinds you get more than 40 lbs., and in others less. Lettices are sold by the score, a score in that case being 22 and not 20."

And, again— "The small man will lose in every commercial operation he undertakes owing to our chaotic and confused system of weights and measures."

350. The need for uniformity has long been recognised as pressing by leaders of agricultural thought. In 1869 the Council of the Central Chamber of Agriculture passed a resolution in favour of all agricultural produce being sold by weight only, with the cental of 100 lbs. as the standard; and it was largely due to the movement inaugurated by this resolution that the cental was made a legal standard of weight by Order of Council in 1879. This commission, however, had little effect in securing uniformity; it neither enforced a single standard nor placed any restriction upon the employment of customary units; indeed, an effective commentary on the difficulty experienced in making a break from long-established custom is afforded by the following report which was unanimously adopted by the Central Chamber of Agriculture as recently as 5th June, 1917. It will be seen that the recommendation originally made nearly 50 years ago is again put forward in almost identical terms:—

- "(a) That the present legal standard pound be the unit of weight, and that the existing legal cental of 100 lbs. be substituted for the hundredweight; 20 such centals to be the ton of 2,000 lbs.
- "(b) That transactions for sales or purchases of agricultural produce and requisites other than liquids, but including milk sold wholesale, shall be by weight under this Standard and System.
- "(c) That all official quotations shall be given on the basis of the pound and cental and that the Press be urged to adopt the same basis for all market quotations.
- "(d) That Section 8 of the Corn Returns Act, 1882,* be repealed and that the Tithe average be adjusted in future upon the cental basis.
- "(e) That a provisional period of two years be allowed before the new system shall be compulsory, after which all contracts under any other standards shall be unenforceable except for foreign trading."

351. While we are at one with the Central Chamber of Agriculture in looking upon the simplification of the weights and measures used in agriculture as an urgent necessity, we recognise that the subject has a wider and more national aspect than the requirements of a single industry. We hesitate, therefore, to make any exact recommendations as to the means by which the needs of agriculture should be met, preferring to suggest that the whole question of imperial weights and measures should be made the subject of enquiry by a Special Sub-Committee of the Reconstruction Committee, which would be in a position to examine representatives of every profession, trade and industry concerned, and correlate the requirements of the country as a whole.

We, therefore, confine our recommendations to the following general principles:—

- (a) A uniform standard of weight should be laid down on which alone sales and purchases of agricultural produce, other than liquids and certain market-garden produce, should be legal.
- (b) A uniform standard of measure for liquids should be similarly laid down.
- (c) A uniform standard of number for certain market-garden produce, regularly sold by number, should similarly be laid down.
- (d) Official and other market quotations should be required to be in the terms of the standards laid down.
- (e) The several standards should be selected so as to cause as little interference as possible with existing methods.
- (f) A certain transition period should be fixed, at the end of which the new standards should be recognised.

TRANSPORT.

352. The dependence of agriculture on the ability to place produce readily and cheaply on the market and to obtain manures, implements, coal and other farm necessities with equal facility, is so immediate and direct that no report upon the reconstruction of agriculture would be complete without reference to this important subject. It is interesting to note that the great renaissance of agriculture in the middle of last century followed the introduction of railways, and was to a great extent made possible by the opening out of new markets which accompanied their spread throughout the country. The present revival in agriculture has synchronised with

*Note.—Section 8 of Corn Returns Act, 1882. In the weekly summary of quantities and prices each sort of British corn shall be computed with reference to the imperial bushel. An inspector of corn returns shall convert into such imperial bushel all returns made to him in any other measure or by weight or by a weighed measure, and in the case of weight or weighed measure shall convert the same at the rate of sixty imperial pounds for every bushel of wheat, fifty imperial pounds for every bushel of barley, and thirty-nine imperial pounds for every bushel of oats.

a further development in transport by means of the mechanically driven road car, and it remains to be seen whether the introduction of the motor may not exercise a corresponding effect upon the agriculture of to-day. It will be necessary to consider later the place which will be occupied by the motor in agricultural transport, and whether it will best act in combination with or, to some extent, in displacement of existing means of transport. It may be also that the development of aircraft may eventually help in the solution of the problem of agricultural transport.

353. The general question naturally divides itself under two heads:—(a) facilities for, (b) cost of, transport. Dealing first with (a) facilities for transport, this again may conveniently be sub-divided into those where the distances to be covered are respectively long and short, ordinary railways and canals coming within the former and light railways and motor services within the latter category.

354. We deal with the whole question at some length in Appendix XIV. to which we would refer those of our readers who are keenly interested in the subject. It will suffice here if we summarise the result of our conclusions.

355. The canals are little used for the conveyance of agricultural produce or of agricultural requirements other than town manure. There are no stations on the canal banks where goods can be stored and the farm roads do not lead to the canals. It is not possible to define with exact precision the different spheres of activity of light railways and of motor services. In one district, where the farm buildings are accessible by good roads to motor vehicles, a motor service may best meet the need of the locality. In another district, where the farm buildings generally lie off the made roads and are accessible only by unmade and often steeply inclined tracks, a light railway may be preferable.

356. It does not appear that the rates and services provided by our railway companies in respect of internal traffic compare unfavourably with those given to producers on the Continent for similar traffic. Whether there are grounds for the complaint that the English companies favour the foreign through traffic at the expense of home traffic was the subject of a Report by a Departmental Committee set up by the President of the Board of Agriculture and Fisheries in 1906 (Cd. 2959). The Railway and Canal Traffic Act, 1888, lays down that "no railway company shall make, nor shall any Court or Commissioners sanction any difference in the tolls, rates or charges made for, or any difference in the treatment of home and foreign merchandise, in respect of the same or similar services," and the Committee in question found that no deviation on the part of the railway companies from this rule had been substantiated, and drew attention to the need for better combination on the part of English growers, if they were to be in a position to claim similar facilities to those accorded to their foreign competitors. Clearly, however, even the most careful organisation would not as a rule enable local traffic to be offered to the companies in the same bulk as that arriving in shiploads from the Continent, and we, therefore, strongly endorse the suggestion made by Mr. Hargrave Brown in his Minority Report that to charge rates for foreign produce lower in proportion to the cost of the services rendered than the corresponding rates for home produce should be looked upon as preferential treatment, and that H.M. Government should take the steps necessary to enforce the law as to undue preference.

357. In our opinion the need for better facilities of transport of every description in rural districts is urgent and immediate, if agriculturists are to be placed in a position to take full advantage of the recommendations we have made for the development of their industry, and are to be enabled to devote themselves to the cultivation of their holdings in the fullest degree. But the matter is not one for the agriculturist alone; the industrial penetration of the countryside, which in some parts has been a feature of recent years, and which, with the improvement of telephonic and other means of communication and the growth of local rates in urban districts, seems likely to develop further in the future, makes it of a far wider national importance. The necessity for a prompt and ready delivery of milk, vegetables, and other agricultural produce, in such districts, as well as for the transport of goods manufactured or required by such communities, adds to the importance of the subject, and we recommend that the whole question should be made the subject of detailed enquiry and report by a Special Sub-Committee of the Reconstruction Committee set up for that purpose.

CONCLUSIONS.

358. We have completed our task to the best of our ability, but shall permit ourselves certain further reflections before finally quitting it. Since Part I. of our Report was sent in Parliament has passed the Corn Production Act, in which it embodied the three principles for which we contended, a guarantee of the price of wheat and oats to secure stability of conditions for all who live from the land, a minimum wage to ensure his fair share of the profits of agriculture to the agricultural labourer or farm servant, a power in reserve to the State to influence the use of land to the greatest national advantage. But the Corn Production Act has been passed as a war measure, and is therefore a temporary Act. We must renew our assurance with all the earnestness at our command that, unless after the war the principles of that Act are (with the necessary adjustment of details to the values and conditions of the time) embodied in a permanent statute, there can be no hope of the people of the United Kingdom becoming emancipated from dependence on supplies of foodstuffs brought from overseas, or of the increase of our rural population. And, again, we must emphasise the fact that Parts 1 and 2 of our Report are not separable policies. They are strictly interdependent and mutually essential parts of one policy. Without the aid of the measures recommended

in Part 2 the stability of the industry of agriculture and the authority of the State secured by Part 1 can only produce partial results. Without the armour provided by Part 1, the measures of reconstruction recommended in Part 2 are foredoomed to impotence.

359. It cannot be too often re-affirmed that the recommendations we have made have never been asked for by landowners or farmers, and that they have been made exclusively in the national interest and not in that of any individuals or class of individuals. We have believed that elementary considerations of national insurance demand that this country should become self-supporting in the matter of foodstuffs in the event of any future emergency, and we have shown how this can be done. We have believed that it is an urgent problem of national welfare to increase the rural population, to give it a fuller sense of social unity, and to open out to the agricultural labourer the opportunity of intellectual and material advancement, and we have also shown how this can be done. But no one will be justified in picking out those of our recommendations with which he happens to agree, and in rejecting those which do not happen to fit in with his personal opinions, and then in expecting the mutilated policy to bear fruit. It was not our wish to send in Part 1 of our Report separately; we did so because we were so requested by the Government; but as a result we have had the advantage of seeing the criticisms made upon it, and we have endeavoured to profit by those which have fully accepted the assumption of our reference and have dealt with our recommendations in no mere spirit of destruction.

360. We have been asked how great an increase of our home-grown food supply is necessary in the interests of national security and how great an increase is possible? Our reply is that in any future crisis like the present war this country must be wholly independent of overseas supplies of corn, potatoes, or dairy produce, and that it must be less dependent on overseas supplies of meat than it is now, and that, if the measures we recommend are continuously carried out, the dependence of this country on overseas supplies of food will become continuously less during the years of peace, with the result that on the outbreak of war, and by carrying out the plans of the Board of Agriculture carefully matured in times of peace specifying the crops to be grown, the country would become self-sufficient in the food stuffs named after the first subsequent harvest in respect of the cultivations for which these plans had been carried out. With sufficient land under the plough and in good heart this is a perfectly practicable policy. Without a sufficient increase of arable land it is not practicable. To cover the interval before the first harvest it would be a wise completion of the policy of insurance to have a store of grain in national granaries. But it may be urged would it not be a better and simpler plan to rely on national granaries altogether and not to attempt the policy of the plough? The answer is that it would cost more to establish national granaries to supply the United Kingdom during a three or four years war than the policy we recommend will cost, and that sole reliance on a granary policy would not only bring with it no increase of the rural population, but a certain further diminution, resulting from the certain further conversion of millions of acres from arable to grass.

361. Again the question has been asked whether the guarantees are intended to make arable cultivation more profitable than grass cultivation, or whether they are needed simply to establish a position under which arable cultivation shall be reasonably profitable and under which farmers can be fairly asked to adopt it, whether other methods are more profitable or not. We intended to make it clear, and believe that we did so, that the answer is the latter and not the former. In this connection also we are asked wherein will consist the anticipated increase in the cost of production after the war. The answer is that so far as we can foresee the cost of all the goods that the farmer buys in the process of his industry will be greater after the war than it was before. It is also quite certain that in many parts of the country the wages of the labour he employs will cost him much more than before the war. It is argued that this is not so, and that when the Southern labourer receives a good wage his labour will become so much more efficient that it will cost the farmer no more than it did before. That this will be true in the long run we do not doubt, but neither do we doubt that it cannot be true during a transition period. Every man's method and style of work become fixed long before he reaches middle age, and to suppose that an agricultural labourer, or anyone else, can suddenly change his whole method and style of work, because his wages have been raised from 17s. to 26s. a week, seems to us a delusion. The proof of the working of the Corn Production Act will be of the greatest value as affording the experience, in the light of which the permanent rate of the guarantee of wheat and oats can be fixed, and a definite period set to the landowners and farmers and agricultural labourers within which they will be expected to have rendered the greatest service in their power to their country by making it self-supporting in the matter of foodstuffs in the manner we have indicated.

362. It is curious how persistent is the impression that milk and butter and cheese can only be produced on grass land. Quite lately the following reflection about the Corn Production Bill appeared in a leading article in a well-known newspaper, that it was "needless to increase the supply of corn if the supply of milk is at the same time diminished, and the Bill, if it proves a real stimulus to the breaking up of grass land, will do that." It cannot be too often repeated that no one proposes to plough all or nearly all the grass land; that what is proposed is a great increase in the ploughed land while leaving an immense acreage still under grass, and that the increase of the proportion of ploughed land will make it easier, not more difficult, to maintain the dairy herds, because even if a considerable reduction of pasture be made, the crops grown in the course of the rotation would afford as much or more cattle food than the same land did under grass, and would in addition provide the grain for human food. There is

no juggle about this. The simple fact is that suitable land under the plough grows much more food for man or beast than the same land under grass. We print as Appendix XV. a paper we have received on this subject from Mr. T. H. Middleton, C.B., of which we quote here the last two sentences. "These methods of estimating are admittedly speculative, but each 'approaches the subject differently and the agreement is close. The conclusion I draw is that 'per unit of area the ploughed land of this country supports about four times the population 'maintained by its grass land. It should be carefully noted, however, that food value is 'estimated in terms of 'energy,' and that, if we considered also the supplies of protein and 'fat, grass land would appear in a somewhat better light."

363. We have received from public bodies greatly deserving of our respect strong expressions of opinion on the subject of security of tenure for tenant farmers. The Welsh Agricultural Council have asked for "fair rent" and "security of tenure." The National Farmers Union of Scotland propose that "rent should be fixed, in the absence of agreement, by a neutral authority appointed by the Government." The National Farmers' Union of England and Wales state "that over 1,250,000 acres annually for several years previous to the outbreak of war farmers received notice to quit from one cause alone—apart from many others—that being sales or intended sales of their holdings," and propose the establishment of an authority equally representing owners and occupiers with the following powers:—(1) to review and, if necessary, annul wanton or unjust notices, (2) to terminate a tenancy if the farmer is farming his land unsatisfactorily, (3) to prevent disturbance merely because of sales or intended sales of holdings.

364. We have not been able to check the figures given in respect of the acreage annually affected by notices to quit by reason of sale or intended sale, and it is of course true that in certain circumstances such notices to quit are justifiable, but we have no hesitation in expressing our opinion that, if these figures can be shown to be accurate, the inevitable result must be a deplorable sense of insecurity. In the section dealing with ownership and tenancy we have set forth the solution of this problem, while in that, which is concerned with the workings of the Agricultural Holdings Act, we have recommended increased compensation for disturbance due to sales.

365. On further consideration we can see no escape from the conclusion we reached in Part I. of our Report that, as the landowner and the tenant farmer are partners in the cultivation of the land, and since the landowner invests more capital in the industrial equipment of the land (apart altogether from that invested in the land itself) than the farmer invests in its husbandry, and since it is essential for increased food production that the landowner's investment of capital in the industrial equipment of his land should be continuously renewed and indeed increased, and since it is certain that the inevitable result of the establishment of a land court to fix rents would be that the landowners would decline (as every one else would in their place) to spend another penny for the purpose, and that the tenant farmers themselves could not find the capital for the purpose, the policy of "fair rents" and "fixity of tenure" is incompatible with that of increased food production, and therefore of national security. We are confident that the way we have marked out in Part I. of our Report is the better way, and that, if the ancient principle, herein reasserted, is accepted and acted upon, those vexed questions of conflicting interests will be settled, perhaps not always to the satisfaction of the parties concerned, but in the interest of the community. That principle is that an owner or occupier of land must hold it with a full sense of his responsibility and duty to use it for the security and welfare of the nation and that in case of flagrant abuse the intervention of the King's officers is justified.

366. Other criticism has been of a very different character. It has attacked our recommendations, while wholly ignoring the terms of the reference set us by Mr. Asquith, the permanent character of the menace to our communications in war time from the submarine and from aircraft, and the certain fact that, if the policy of "laissez faire" once more prevails, the process of the conversion of plough land to grass will be resumed with uninterrupted rapidity. It is not possible to attach any value to criticism of this kind.

367. It has also been urged that the high prices prevailing during the war would have induced farmers of their own accord to plough up their grass land and that so the desired result would have been attained without any guarantee on the part of the State. There is absolutely no basis in fact for this suggestion. It is the universal experience of all those who have been responsible for food production during the war that no present high prices would have led the farmers of their own initiative to plough up their grass land, both because of the special present difficulties of arable cultivation owing to shortage of labour during the war, and because of the dread of a fall of price after the war of unforeseen extent.

368. Another and extraordinary class of criticism has been directed, not at the actual recommendations of Part I of our Report nor at the details of the Corn Production Act, but at any attempt to foster agriculture or to develop food production in the United Kingdom. Stripped of all phrases the contention is that in the interests of British manufacturers and of the British mercantile marine agriculture must be kept in a continuously depressed condition and that nothing must be done to increase the productivity of British or Irish land! The argument runs as follows:—Where is the labour to come from for increased food production? All the labour that can be obtained will be indispensable in our mills, engineering and ship-building yards. Not a man must be diverted from these industries to the cultivation of the land. We cannot be both a great manufacturing and a great agricultural nation. Therefore, unless we are prepared to retire from business and accept the position of a fifth-rate power it is

and those developments will be available to all other nations as well as to Germany. It does not follow that all our overseas communications will be closed. That is highly improbable so long as we maintain the Navy at the necessary strength and adequately develop our air fleet. But it does mean that it will probably be impossible to maintain such an overseas volume of trade in war time as would enable us ever again to finance our allies as we have done in this war, and it does mean that it would be perfect madness to enter upon such a war in reliance upon overseas supplies of food or munitions of war. If we were self-supporting in the essentials of national existence, in such circumstances the United Kingdom would be able to face such a struggle with equanimity and the Navy would be freed for the work of keeping open the communications of the Empire, for the movement of troops, for the support of our armies, and above all for attacking the enemy.

374. In this matter we naturally desired to be fortified with the opinion of the Admiralty. We accordingly wrote to them and drew their attention to the terms of the reference we received from Mr. Asquith, and said "that any observations which the Lords Commissioners of the Admiralty were able to make in the light of their subsequent experience would be of great assistance to the Sub-Committee." The following is a paraphrase of the reply which we have received and which the Lords Commissioners of the Admiralty have passed as accurate and given us authority to reproduce in this report:—

The submarine attack on the overseas food supply of the United Kingdom has thrown a great additional strain upon the Navy in the present war. The Navy has so far been able to keep this submarine attack in check, but no means have yet been discovered to render sea-borne traffic immune from attack. Consequently any effective steps to make this country less dependent upon the importation of the necessities of life in the present war would result in a great reduction of anxiety.

The certain development of the submarine may render such vessels still more formidable as weapons of attack against sea-borne commerce in a future war, and no justification exists for assuming that anything approaching entire immunity can be obtained. Therefore, the experience of the present war leads to the conclusion that any measures which resulted in rendering the United Kingdom less dependent on the importation of foodstuffs during the period of a future war, and so in reducing the volume of sea-borne traffic, would greatly relieve the strain upon the Navy and add immensely to the national security.

375. Soon after Part I. of our Report had been sent in the Rt. Hon. R. E. Prothero, M.P., Sir Charles Bathurst, K.B.E., M.P., and the Rt. Hon. George H. Roberts, M.P., found the pressure of their official duties such as to compel them to retire from the work of this Sub-Committee. We greatly regretted the loss of their services as colleagues. To our Secretaries, Mr. H. L. French and Mr. A. Goddard, we are most grateful for their constant attention and efficiency. The President and Council of the Surveyors' Institution were good enough to allow us to hold all our meetings in their offices, and we wish to put on record our appreciation of this great courtesy.

376. In Appendix I. to this Report we give a summary of our recommendations.

We are,

Sir,

Your obedient Servants,

(Signed) SELBORNE (Chairman),
CHARLES DOUGLAS,
AILWYN FELLOWES,
W. FITZHERBERT BROCKHOLES,
A. D. HALL,
WILLIAM A. HAVILAND,
C. BRYNER JONES,
*DENIS KELLY,
*HORACE PLUNKETT,
G. G. REA,
EDWARD G. STRUTT.

H. L. FRENCH,
A. GODDARD,

Joint Secretaries.

30th January, 1918.

* In signing this Report I think it right to state that I was prevented by illness from taking any part in the deliberations of the Sub-Committee until near the end of May, 1917. Two months later I was appointed Chairman of the Irish Convention; and it became impossible for me to attend more than a very few meetings of the Sub-Committee, or even to give any detailed study to the documents. I do not withhold my signature as I am strongly of opinion that a new agricultural policy is urgently needed and I agree, in its main outline, with the policy recommended above.

(Signed) HORACE PLUNKETT.

LIST OF APPENDICES.

	PAGE.
I.—Summary of Recommendations	93
II.—List of witnesses who have given oral evidence before the Sub-Committee	98
III.—Memorandum on wheat production received from Professor R. H. Biffen, F.R.S.	98
IV.—The "Agricola" scheme of cropping	102
V.—Number of persons engaged in agriculture in the United Kingdom as returned at each census from 1881-1911	106
VI.—The education of landowners and of land agents	106
VII.—Extract from the report to the Board of Agriculture and Fisheries of an enquiry into Agricultural Credit and Agricultural Co-operation in Germany by Mr. J. R. Cabill	109
VIII.—Extract from a report to the Agricultural Organization Society by Mr. John Ross	111
IX.—Extract from the introduction of Part I. of the final report of the Departmental Committee on the settlement and employment on the land of discharged Sailors and Soldiers	114
X.—Extract from the report of Lord Haversham's committee giving an example by Sir Trustram Eve, K.B.E., of a reducible mortgage	116
XI.—Village reconstruction, village industries, and social life	118
XII.—Tithe Redemption	122
XIII.—The supply of artificial manures	124
XIV.—Transport	125
XV.—Estimate of the amount of food (expressed in terms of energy) produced by ploughed land and by grass land in the United Kingdom	131

APPENDICES.

APPENDIX I.

SUMMARY OF RECOMMENDATIONS.

PART I.

Agricultural Wages.

	Para.	Page.
We recommend:—		
1. That a minimum wage for ordinary agricultural labourers should be established	21	16
2. That Wage Boards should be set up for each Administrative County in Great Britain	26	17
3. That the Wage Board in Dublin should be made permanent	72	33

Price of Wheat and Oats.

We recommend:—		
4. That minimum prices for wheat and oats should be guaranteed: 42s. for wheat and 23s. for oats, or such prices as might correspond to those in relation to the standard of value obtaining after the war	21 33	16 18
5. That payment should be based on the difference between the price guaranteed and the average price for the year	35	19
6. That payment should be made on the number of quarters actually harvested	36	19

Methods of Securing Increased Production.

We recommend:—	Para.	Page.
7. That a general survey of the condition of agricultural land throughout the United Kingdom should be made from the point of view of its utilisation for food production ...	54	24
8. That the Board of Agriculture should have power temporarily to supersede owners in case of such mismanagement as seriously affects food production ...	56	25
9. That the Board of Agriculture should have power to dispossess tenants who cultivate their lands badly so as seriously to affect food production ...	58	25
10. That a Departmental Committee should be set up to consider the improvement of common grazing lands ...	60	25
11. That an increase in the number of cottages in rural districts should be brought about at the earliest possible moment ...	61	26
12. That the powers of the Irish Department of Agriculture under the Defence of the Realm Act, with regard to enforcing proper cultivation, should be extended and made permanent ...	73	33
	78	34

Sugar Beet.

We recommend:—	Para.	Page.
13. That the Development Commissioners should no longer be debarred from making advances to associations trading for profit ...	66	26
14. That the Government should assist in providing the funds necessary to establish a sugar factory ...	67	27
15. That the present surtax should be continued for 10 years ...	67	27
16. That the Government should carry out a complete test of the commercial possibilities of manufacturing sugar from home-grown beet ...	68	27

PART II.

Scottish Board of Agriculture.

We recommend:—	Para.	Page.
17. That a special Minister for agriculture should be appointed, who should be directly responsible to Parliament ...	101	38
18. That Statutory County Agricultural Committees should be set up ...	101	38
19. That a National Agricultural Council should be set up ...	101	38
20. That an Advisory Committee, on the lines of the Agricultural Board in Ireland, should be set up ...	101	38

Board of Agriculture and Fisheries for England and Wales.

We recommend:—	Para.	Page.
21. That the Department should be housed under one roof ...	106	39
22. That the status of the Minister for Agriculture should be raised to that of the President of the Board of Trade or Local Government Board ...	106	39
23. That the staff should be strengthened and its responsibilities increased ...	106	39
24. That Statutory County Agricultural Committees should be set up ...	107	39
25. That a National Agricultural Council for England should be set up ...	59	25
26. That the National Agricultural Council for Wales should be made statutory ...	108	39
27. That an Advisory Committee, on the lines of the Agricultural Board in Ireland, should be set up ...	109	40
28. That delegates from the four National Agricultural Councils should meet annually ...	110	40
	112	40

Agricultural Instruction and Research.

We recommend:—	Para.	Page.
<i>Scotland.</i>		
29. That the work done by the Agricultural Colleges should be developed and extended ...	124	41
<i>England and Wales.</i>		
30. That the responsibility for agricultural education should be removed from the County Councils and centralized in the Board of Agriculture, the cost being borne out of national funds ...	142 et seq.	45

England and Wales, and Scotland.

	Para.	Page.
31. That an improved ruralized curriculum for Elementary and Secondary Schools should be laid down, and better prospects provided for teachers in rural districts	149 <i>et seq.</i>	46
32. That demonstration and illustration farms should be established	124	41
33. That instruction should proceed in a number of directions indicated in the paragraph	159 <i>et seq.</i>	47
34. That a limited number of large demonstration farms run on business lines should be established	161	48
35. That research work should be developed	162	48
	117	41
	125	42
	163 <i>et seq.</i>	48
36. That livestock schemes should be extended, and livestock officers become the servants of the Board of Agriculture ...	168 <i>et seq.</i>	49
37. That the expenditure on agricultural education should be largely increased	175	50
38. That better opportunities for the agricultural education of women should be given	176	50
39. That students likely to become land-owners or land agents should be given greater opportunity of studying rural economy at public schools and universities	178	51
	Appendix VI.	

Organisation and Co-operation.

We recommend:—

40. That additional support from national funds should be given to existing Agricultural Organisation Societies	193 <i>et seq.</i>	54
--	--------------------	----

Agricultural Credit.

We recommend:—

41. That the procedure in respect of loans should be cheapened and simplified	216	58
42. That short term credit through Co-operative Trading Societies and Farmers' Central Trading Boards should be provided	219	59
43. That deposits in the Post Office Savings Bank should be made available for use by Central Trading Boards	223	60

Smallholdings: Ownership and Tenancy.

We recommend:—

44. That an enquiry should be made into the success attending the special form of tenure set up by the Small Landholders (Scotland) Act, 1911	226	60
45. That greater facilities for purchase should be given to smallholders desirous of owning their land; that County Councils should be urged to prepare schemes at once for the provision of smallholdings for ex-soldiers and soldiers, both as tenants and owners; and that the Treasury should remove the financial restrictions at present placed upon them	229	61
46. That the principle of purchase contained in Mr. Jesse Collings' Purchase of Land Bill should be adopted	241	64

Village Reconstruction, Industries and Social Life.

We recommend:—

47. That schemes for the reconstruction of a certain type of village should be drawn up on the lines indicated in the paragraph	245	65
	Appendix XI.	
48. That the development of rural industries and the formation of Women's Institutes should be a recognized activity of the Agricultural Organisation Society, or other similar body, and that distinct grants for those purposes should be given ...	Appendix XI. (22)	

Tithe Redemption.

We recommend:—

49. That legislation should be passed to stimulate tithe redemption particularly with a view to making land available for smallholdings or for village reconstruction without payment of cash	247	65
	Appendix XII.	

Local Taxation.

We recommend:—

50. That a periodic revaluation for assessment purposes should be made	262	68
51. That the cost of national services should be more equitably apportioned between local and national funds	269	70

The Agricultural Holdings Acts.

We recommend:—

52. That high farming, beyond the recognised requirements of good farming, should, subject to proper safeguards, be recognised as a subject for compensation	276	72
53. That a schedule of dilapidations should be set up for use where no agreement exists	277	72
54. That section 1 (2) (b) should be amended	277	72
55. That, subject to a limitation with regard to market gardens, agreements substituting compensation in place of that provided under the Acts, should be void	277	72
56. That section 5 should be amended	277	72
57. That section 11 (England), section 10 (Scotland) Act should be amended with a view to extending the compensation allowed in respect of disturbance	278	72
58. That the Agricultural Holdings Act, 1914, should be extended to Scotland	278	73
59. That the sections allowing compensation for damage by game should be extended to allow compensation to be claimed from persons from whose land ground game comes	279	73
60. That where no custom obtains tenants holding under an agreement should be required to farm according to accepted rules of good husbandry during last year of tenancy; and income or landlord should have the option of purchasing manure, hay or straw proposed to be sold off during last year of tenancy	280	73
61. That amendments in procedure should be adopted for the purpose of reducing cost of assessing compensation	282	73
62. That arbitrators in England and Wales, appointed by the Board of Agriculture, should have recognised qualifications	284	74
63. That the First Schedule should be amended	285	74
64. That Rules 10 and 14 of the Second Schedule should be amended	286	74
65. That sections 3 (3) and 25 (iii) should be amended	287	74
66. That section 35 (3) should be made of general application so far as it applies to compensation for improvements	287	74
67. That the provisions of section 40 should be extended so as to place occupiers of glebe land in the same position with regard to notice to quit (section 22) as other agricultural tenants	287	74

Market Gardens.

68. That the principle of the Evesham Custom should be adopted	296	76
69. That agreements outside the above should be permitted subject to approval by the Board of Agriculture	299	76
70. That in case of refusal by the landowners to allow land to be used for market garden purposes, the procedure described in the paragraph should be adopted	300	76

Reclamation and Drainage.

71. That the question of reclamation must be dealt with by legislation	311	81
72. That a special Sub-Committee of the Reconstruction Committee should be set up to report as to the principles on which such land should be acquired	312	82
73. That the Land Drainage Act, 1914, should continue in force until Parliament deals with the whole subject in a comprehensive manner	323	83
74. That Reclamation and Land Drainage Authorities for each of the three Kingdoms should be established	325	83
75. That the County Agricultural Committees should have power to insist that minor drainage works are kept in proper working order	331	84

Dear Forests.

Para. Page.

We recommend:—

76. That land suitable for agriculture and forestry should be so utilised, and that a special survey for this purpose should be made ... 336 85
77. That a national policy of afforestation, and intermingling plantations and smallholdings should be adopted ... 339 85

The Elimination of Pests and Weeds.

We recommend:—

78. That legislation should be passed to prohibit the sale of grass and other seeds without guarantee of purity, germination, &c.; to schedule and deal with injurious weeds; and to eliminate animal pests ... 341 *et seq.* 85
79. That the County Agricultural Committees should be given special powers to deal with weeds and pests; that a Committee suffering from supineness on the part of an adjoining Committee should have the right of appeal to the Board of Agriculture; and that the Local Government Boards should enquire into the injury done to agriculture by pests emanating from cities, ports and urban districts, with a view to providing a remedy ... 341 *et seq.* 85

Weights and Measures.

We recommend:—

80. That a Special Sub-Committee of the Reconstruction Committee should be set up to enquire into the whole question of imperial weights and measures ... 351 87
81. That a uniform standard of weight should be laid down on which alone sales and purchases of agricultural produce, other than liquids and certain market-garden produce, should be legal ... 351 87
82. That a uniform standard of measure for liquids should be similarly laid down ... 351 87
83. That a uniform standard of number for certain market-garden produce, regularly sold by number, should similarly be laid down ... 351 87
84. That official and other market quotations should be required to be in the terms of the standards laid down ... 351 87
85. That the several standards should be selected so as to cause as little interference as possible with existing methods ... 351 87
86. That a certain transition period should be fixed, at the end of which the new standards should be recognised ... 351 87

Transport.

We recommend:—

87. That a special Sub-Committee of the Reconstruction Committee should be set up to enquire into the whole question of transport improvement and facilities ... 357 88
88. That farmers should be induced to act in co-operation to obtain and send larger quantities of goods by water ... Appendix XIV. (4)
89. That a scheme should be prepared to enable discarded army motors to be made use of in the organisation of transport services, and for other farm purposes ... Appendix XIV. (14)
90. That some arrangement should be made by which public funds would be made available to assist in the organisation of motor transport ... Appendix XIV. (15), (16)
91. That to charge rates for foreign produce lower in proportion to the cost of the services rendered than the corresponding rates for home produce should be looked upon as preferential treatment, and that the Government should take the steps necessary to enforce the law as to undue preference ... Appendix XIV. (31)

APPENDIX II.

LIST OF WITNESSES WHO HAVE GIVEN ORAL EVIDENCE BEFORE THE SUB-COMMITTEE.

Name.	Representing, Nominated by, or other Qualification.
1. The Rt. Hon. the Earl of Crawford and Balcarres	President of the Board of Agriculture and Fisheries.
2. The Rt. Hon. F. D. Acland, M.P.	Parliamentary Secretary to the Board of Agriculture and Fisheries.
3. Professor John Wrightson	Late Principal of the College of Agriculture, Derrinstown, Wilts. Special Crop Reporter to "The Times."
4. Mr. C. (now, Sir Charles) W. Fielding	Farmer, County of Elgin.
5. Mr. George A. Ferguson	Assistant Secretary, Board of Trade Employment Department.
6. Mr. W. H. Beveridge, C.B.	County Land Agent for Carmarthenshire, Development Commissioner, &c.
7. Mr. H. Jones-Davies	Assistant Secretary, Board of Agriculture and Fisheries.
8. Mr. T. H. Middleton, C.B.	Chairman of the Board of Agriculture for Scotland.
9. Sir Robert P. Wright	Organiser of Agricultural Education to the Lindsey County Council.
10. Mr. R. N. Dooling	Member of the Sub-Committee.
11. The Hon. E. G. Strutt	West of Scotland Agricultural College, Glasgow.
12. Principal W. G. R. Paterson	Farmer in Shropshire and Denbighshire.
13. Mr. Richard Edwards	Agricultural Commissioner for Wales.
14. Mr. C. Bryner-Jones, M.Sc.	Chairman of the British Sugar Beet Growers' Society, Limited.
15. Captain (now, Sir) Beville Stanner, M.P.	Director of Rothamsted Experimental Station, Harpenden.
16. Mr. E. J. Russell, D.Sc.	Hon. Secretary, Scottish Farm Servants' Union.
17. Mr. Joseph Forbes Duncan	Farmer in Haddingtonshire.
18. Mr. G. Herberton Shields	Land Agent to the Duke of Bedford, Woburn, Bedfordshire.
19. Mr. C. P. Hall	
20. The Rt. Hon. Viscount Milner, G.C.B., G.C.M.G.	Lead Agent, Hatterwick, Northumberland.
21. Mr. J. M. Clark, F.S.I.	Farmer in Kent and Wiltshire.
22. Mr. W. W. Berry	Farmer in Norfolk and Northamptonshire.
23. Mr. Harry Overman	Farmer in Staffordshire.
24. Mr. R. G. Patterson	School of Agriculture, Cambridge.
25. Professor R. H. Whitten, F.R.S.	Secretary to the Rural League.
26. Mr. J. L. Green	Small Holdings Commissioner, Board of Agriculture and Fisheries.
27. Mr. D. C. Barnard	Secretary to the Surveyors' Institution.
28. Mr. A. Goddard	
29. Brig.-General The Lord Lovat, K.C.V.O., D.S.O.	Secretary of the Scottish Agricultural Organisation Society, Ltd.
30. Mr. John Drysdale	Manager of the Agricultural Department of the Co-operative Wholesale Society, Manchester.
31. Mr. E. Jackson	Permanent Member of the Congested Districts Board for Ireland.
32. Sir Henry Doran	Headmaster of Rugby.
33. Rev. A. A. David, D.D.	Secretary of the Irish Organisation Society.
34. Mr. E. A. Anderson	Member of the Scottish Land Court.
35. Mr. Norman Reid	Divisional Inspector of Elementary Schools, Board of Education.
36. Mr. F. T. Howard	Managing Director of the British Cyanides Co., Ltd.
37. Mr. Kenneth Chace	Secretary and Assistant Secretary to the Department of Agriculture and Technical Instruction for Ireland.
38. } Mr. T. P. Gill and Mr. J. R. Campbell {	
39. } {	
40. Mr. Leslie Scott, K.C., M.P.	Chairman of the A.O.S.
41. The Rt. Hon. Robert Munro, K.C., M.P.	Secretary for Scotland.
42. Mr. E. B. Shine	Head and Superintending Inspector of the Live Stock Branch of Agriculture and Fisheries.
43. Mr. F. N. Webb	Chairman of the Market Garden, Fruit and Hop-Growing Committee of the Central Chamber of Agriculture.
44. Mr. W. G. Lejst	Farmer, Fruit, Hop and Potato Grower in Kent.
45. Mr. W. Colthup	

APPENDIX III.

MEMORANDUM ON WHEAT PRODUCTION RECEIVED FROM PROFESSOR R. H. BIFFEN, F.R.S.
(SCHOOL OF AGRICULTURE, CAMBRIDGE.)

GENERAL CONSIDERATIONS.

1. The area devoted to the wheat crop in this country is so entirely dependent on the prices obtained for the grain, that it is highly improbable that any extension will take place unless the farmers see their

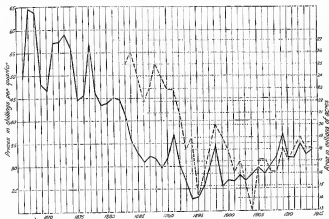
way to obtain greater profits from the crop than they have in the past.

The interdependence is shown in Fig. I, where the lower line represents the price in shillings per quarter, and the upper line the area in millions of acres

devoted to the crop. From 1870 until 1894, prices and acreage fell rapidly, but since 1897 the fairly steady rise in prices has been accompanied by a gradual rise in the acreage. The curves cross one another at

several points, but this is due mainly to fluctuation in the acreage brought about by bad weather conditions during the late autumn when sowing should be in progress.

FIG. I.—HOMB CROP. Comparison of Prices (—) and Areas (---).

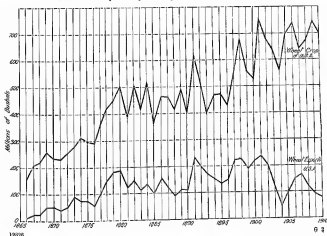


2. There are reasons for considering that the rise in price and consequently the increase in the area under wheat will continue. It is impossible to set these out fully, but the more important facts bearing on this point can be briefly summarised.

3. The fall between 1890 and 1894 was due mainly to the enormously rapid increase in the area under wheat in the United States. During this period the American population increased relatively slowly, with the result that there was a vast surplus available for

export. Further, the crops were produced under prairie conditions and the growers could afford to take a very low price for them. This, however, was a passing phase, for though the United States are still the largest wheat producers in the world, and though the area still tends to increase slightly, the amount exported tends to fall (Fig. II). The results are so marked that we find American agricultural experts seriously considering the possibility of the United States having to become a wheat importing country in order to feed the rapidly growing population.

FIG. II.—Comparison of the Crop and Exports of the U.S.A.



4. It may be assumed that the course of events in America will prove typical of that of other countries where there has been a rapid rise in production under prairie conditions. The soils gradually become exhausted, and in place of continuous wheat cultivation a system of rotations has to be adopted in order to restore and retain their fertility.

In Canada, where production has increased rapidly from 1890 up to the present time, the first settled portions in the eastern parts of the country have been forced to fall back on the more intensive rotational cropping, leaving the newly settled western and north-western Provinces to carry on the system of extensive wheat growing under prairie conditions. It is impossible to say how much longer this cheap form of cultivation can be carried on. One of the most conservative of the Canadian estimates puts the undeveloped wheat area at about 14 million acres, whilst in another treble this figure is given as the area of new land which will ultimately be brought under this crop. It may be that Canada can double her present production, though it by no means follows that there will be double the present surplus for export.

5. There are several facts which lead one to question the statement so frequently made that Canada will shortly be the Empire's granary. In the first place the profits made from wheat growing are small and they do not satisfy many of the growers. A recent report states that in Manitoba they only amount to 2.65 dollars an acre, whilst in Saskatchewan they are as low as 1.72 dollars. These two Provinces produce nearly three-fourths of the total Canadian crop. If profits continue at this level, it seems unlikely that there will be any great extension in the area under wheat. Further, there is a good deal of uncertainty about the yield of crop. On the whole it is high for prairie conditions (averaging 19.5 bushels per acre for the period 1900-1914) but great losses are often experienced through the attacks of black rust, and in the northern districts much damage is often caused by frost before the grain is ready for harvest.

6. The position in the Argentine, another of our sources of cheap wheat, is more difficult to ascertain owing to the lack of reliable statistics. Since 1888 the area under wheat has increased from 3 to over 15 million acres, and in the same period our imports from this country have risen from 4 to some 25 per cent of our total wheat imports. This has been accomplished in spite of an indifferent labour supply, bad systems of land tenure and very inadequate facilities for handling the crop. There are also indications that the wheat area may be increased still further, for locusts cultivation is becoming general on many of the largest cattle ranches, and this crop is an excellent preparation for wheat. Improvements in the methods of cultivation will certainly lead to a large increase in the amount grown. But this does not necessarily imply that the Argentine will be in a position to feed this country with wheat at a lower price than we can raise it here. The factors which tell against this are the increasing needs of the Argentine population which appears to treble its numbers in about forty years, the uncertainties of the yield owing to drought, rust and the attacks of locusts, and the high cost of freights between the two countries.

7. Russia, which is second only to the United States as a wheat producer, and occupies the first place if Asiatic Russia is included, has of late years provided us with about 10 per cent. of our total imports. An analysis of the figures for the past 50 years shows no marked tendency for the amount to either increase or diminish, though it varies considerably from year to year. The increasing wheat crop of the country appears to be absorbed locally, owing to the fact that the wheat bread is gradually replacing that made from rye. But Russian agriculture is still carried on, on somewhat primitive lines, and it seems probable that the attention now being paid to its more scientific development will lead to a considerable increase in the low average yields per acre characteristic of even the best wheat-growing districts. Lack of data prevent any consideration of the problem whether this increase will lead to greater exports or whether it will be required by the growing population.

8. Both India and Australia have for the past 30 years sent considerable, but very variable quantities of wheat to this country. In neither case can one see

much possibility of the amounts being increased substantially, and the fact has an eye to be borne in mind that neither source is a particularly dependable one.

9. Whilst many of the facts are ill-defined, the general conclusions which can be drawn are fairly clear. The world's crop continues to increase slowly, and concurrently with this the number of wheat consumers increases—partly through the growth of the population, and partly through wheat replacing other cereal foods. Prices have tended to rise of late years, a fact which may indicate that the world's consumption is increasing faster than its rate of production. There are now no vast areas of land comparable with those of North and South America awaiting the pioneer wheat growers, and consequently there is no likelihood of any repetition of the over-production characteristics of the period 1874-1891. In all probability the price of wheat will continue to rise still further, and a level will be reached at which it will pay the home producer to devote more capital and energy to the problem of feeding the nation.

10. In 1914, wheat cultivation on land capable of producing an average crop of 32 bushels an acre was profitable with wheat at 35s. per quarter. In the immediate future, the farmer will probably look for a price of 40s. per quarter to cover the increased cost of production brought about by a higher wages bill. On less fertile soils and also on soils where there is a certain amount of risk in growing the crop owing to the difficulties of securing a yield in the autumn months, a higher return—possibly amounting to 45s. will be expected.

I.—IMPROVEMENTS IN THE KINDS OF WHEAT GROWN.

11. Increased production may be expected from any improvements in the kinds of wheat grown. Until recently, so little had been effected in this direction, that some of the oldest wheats in cultivation were still the best grown. But of late years the systematic study of cross-breeding has opened up great possibilities of improvement. An examination of wheats collected from all parts of the wheat-growing world has shown that, whilst practically all of them are valuable for cultivation here, some few of them possess characteristics of considerable value which are lacking in our own wheats, but which the plant-breeder can—so to put the matter somewhat crudely—transfer to the varieties we now grow. This can be illustrated by a couple of examples:—(a) showing the possibility of increasing the yield per acre; (b) of increasing the value of the crop itself.

12. (a) The yield per acre is determined by many factors. One of these is the loss caused by the attacks of various fungoid parasites of which the common yellow rust is the most important. Farmers rarely recognise that its presence in a crop is serious unless the epidemic happens to be particularly severe. Probably this is due to the fact that no experimental data exist to show what these losses amount to. It appears to be from 5 to 10 per cent. of the crop annually, but this season several cases have come under my notice in the few countries where its attacks have reduced the yield per acre by one half or even so obviously ruined the crop that it was cut for hay. These losses are preventable, for rust-resisting wheats have been discovered, and this characteristic has been transferred to varieties suitable for cultivation here. One of these has been tested on an extensive scale during the past four seasons, and found to give an average crop of 4 to 5 bushels more per acre than the ordinary rust-susceptible wheats generally grown. Records received from growers agree with these results, for they put the increase in their crops at 10 to 12 per cent. Still greater resistance has been secured, but as the varieties have not been tested on the wholesale scale by farmers, no reference will be made to them. However, taking only the results already obtained in practice, they point to the fact that the improvement in this single feature leads, with wheat at 40s. per quarter, to a gain of about £1 per acre.

13. (b) A comparison of the prices of English and imported grain shows that the home crop is worth some 3s. or 4s. less per quarter than much of the wheat from America and Canada. These higher prices are paid at the ports of entry, and by the time the grain reaches the inland mills (the farmer's natural markets) the difference in value amounts to 4s. or 5s.

14. The increased value of these imported wheats is due to their superiority for the manufacture of the type of bread now in universal demand in this country. English wheats lack a characteristic found in those imported varieties which is known to millers and bakers as "strength." Until recently it was believed that this feature was determined solely by climatic conditions. This view has been proved to be incorrect in certain cases, and we now know of several varieties capable of producing grain here which is practically as strong as that of the best imported wheats. Unfortunately these varieties are not suitable for general cultivation here. Their yield per acre is usually too low and the straw too slender and brittle to warrant any hopes of their ever being grown on an extensive scale. But their strength can be transferred to the heavy cropping kinds which we grow in this country. Many such types have been raised now, and the attempt is being made to find amongst these sorts suitable for the various soil and climatic conditions met with in England. The first strong variety raised and introduced has had a somewhat chequered career, for whilst it has been found to succeed well in some districts, its cropping capacity in others has been too low to be satisfactory. It is now thoroughly established in the districts which suit it, and its produce is sought after by the millers, who willingly pay 8s. or 6s. more per quarter for it than they pay for the ordinary wheats. A second variety has been introduced this season which in the preliminary trials has been found to possess excellent baking qualities, whilst its cropping capacity on the farm attached to the Plant Breeding Institute at Cambridge, and at two other places, has proved superior to that of Square Head's Master.

15. If, as there is every reason to hope, the problem of breeding satisfactory strong wheats has been solved, then their cultivation should add about £1 to the value of the produce of every acre of wheat in the country.

16. These examples by no means exhaust the possibilities of improving English wheats.

17. Probably, of the various methods suggested for extending the cultivation of wheat in England, the direct improvement of the plant itself will prove the most important if only for the reason that increased profits can be obtained without any further cost to the grower.

II.—INTENSIVE CULTIVATION.

18. Our present yield of some 32 bushels per acre is obtained with the minimum expenditure of labour and of manure on the crop. Compared with that of most wheat-growing countries it is high, but it matches this figure mainly because wheat is now grown only on those soils capable of producing a crop of about this magnitude, or more, without much expenditure. It represents, roughly, the lowest yield at which cultivation is now profitable. The poorer wheat-growing lands whose yields might considerably reduce this average yield have now dropped out of cultivation. But 32 bushels per acre by no means represents the amount which could be raised if better cultivation became general. The maximum crop an acre can produce under the most favourable circumstances is still unknown. It is certainly over 85 bushels, for this amount has been reached on several occasions.

19. In ordinary practice, the only factor affecting the yield per acre to which any attention is paid is that of the food materials available in the soil for the growing crop. Where any deficiencies are suspected these are made up for by the more or less casual application of artificial manures, mainly in the form of Chili sulphate or sulphate of ammonia. The results are usually profitable. At a rough estimate the careful use of artificials might increase the average yield per acre from four up to five quarters. Putting the value of the extra quarter at 40s. and the cost of the manure at 15s., this shows a clear profit of 25s.

per acre over and above that of the ordinary crop. This, too, is obtained with the slightest of risks. But it is unlikely that the average can be forced above this figure, for whilst much larger crops can be grown they become much more expensive to produce, owing to the operation of the law of diminishing returns, and owing to the fact that they are very liable to be laid in rough weather, and consequently are costly to harvest. Further, these second crops are especially liable to the attacks of rust and other fungoid diseases, and this considerably reduces their yielding capacity.

20. More intensive cultivation will have to go hand-in-hand with the improvement of the varieties grown. Stiffer straws, capable of carrying heavier crops, and varieties resistant to disease will have to be provided before the most can be made of intensive cultivation. Some progress has been made in this direction, and even in 1918, a year when disease has been more prevalent than usual, and crops have been correspondingly low, yields of 80 bushels to the acre have been obtained with a rust-resisting variety. Attention will also have to be paid to other factors determining the yield per acre besides the available supply of food materials. Information is badly needed on the effects of regulating the available water supply by appropriate methods of tillage, the effects of deepening the root-run of the plants, of wider spacing and inter-tillages during the early stages of growth. Problems such as these might well be investigated by some of the experimental stations now in existence.

III.—EXTENSION OF ARABLE LAND.

21. There can be no question that an increase in the arable land of the country will lead to an increase in the amount of wheat grown. The fact which has been lost sight of in the past twenty years must be insisted on now-a-days, that England is naturally one of the best, if not the very best, wheat-growing country in the world. Its climate and much of its soil are almost ideal for the production of the hardest crops. Were it not for these advantages, if our yield, for instance, had been only that of the United States, of Canada, or of any of the other great exporting countries, wheat would have disappeared by now from our systems of husbandry. But it has kept its place in spite of everything merely because our yields average some 32 bushels per acre without much trouble on the part of the farmers.

22. It is certain that there are at least three million acres suitable for wheat cultivation, and probably considerably more. Indeed, in the 'seventies, when the crop was worth some 50s. per quarter, over two and three-quarter million acres were grown. This area can be gradually reconquered when the profits from wheat-growing make it economically possible. Much of the land now under grass which would have to be broken up is heavy and interesting, and it was the difficulty of working it which led to its abandonment as arable, rather than any lack of fertility. The coming of the motor plough with its capacity for working cheaply, and still more important, of working rapidly, should result in land of this type being got ready for autumn sowing under any except the most unfavourable conditions.

23. If, on the other hand, we consider the extremely light soils, usually looked upon as unsuitable for wheat-growing, our increasing knowledge of the best methods of handling these and of the best varieties to grow should make their cultivation profitable. There is, further, the possibility of bringing large areas of land at elevations of 700 to 900 feet under wheat. The occasional crops grown under these conditions are often very satisfactory, but their lateness and the consequent difficulty of harvesting them stands in the way of their more extensive growth. It should prove a relatively simple matter to breed varieties capable of maturing rapidly under these conditions.

APPENDIX IV.

THE "AGRICOLA" SCHEME OF CROPPING.

HANDLED IN BY MR. C. W. FIELDING.

Mr. C. W. Fielding, when giving evidence before the Sub-Committee (see *Summary of Evidence*, para. 56-76), gave particulars of the "Agricola" scheme of cropping which he had worked out. (Schedule I.—*Agricola Scheme of Cropping*.) Mr. Fielding wrote as follows:—

"Roughly, the scheme involves a rotation of: One crop of wheat in each three years; one crop of barley, oats, peas or beans each three years; one clover crop in each seven years; and one cleaning root crop in a seven year rotation; peas or beans should be introduced as one of the corn crops to aid the clover and to add natural nitrogen to the soil.

"Calculating the crop that would result on no higher basis than the present average United Kingdom yields, the quantity available for human food and for animal feed that would be produced by the 'Agricola' system of cropping was ascertained.

"The wheat and potatoes that would be produced were found equal to the total United Kingdom pre-war consumption. In order to ascertain how far the other crops would go towards feeding the animals needed to supply the United Kingdom with its needs of meat, milk, butter, cheese, sugar, &c., required the calculation of the rations needed to feed cattle, sheep and pigs of all ages, as well as the horses to work the land. (Schedule II.—'Agricola' Rations for Animals.)

"The quantities of animal food available were found to be sufficient for all the animals that would have to be kept to supply all needs of meat and half the imported butter.

"I would like to point out that all the figures given in all the other Schedules are compilations of official figures and are all demonstrable by arithmetic. The Schedules II. of feeding rations requirements are, however, matters of practice, and, to some extent, of opinion. I worked these out from data collected over many months from every source available to me. As proof that under the whole 'Agricola' scheme we can grow almost all our own food depends on the accuracy

of these Schedules, I have been at great pains to verify that within small limits the rations are correct. As a practical check, I fed my own 30 farm horses and 300 cattle of all ages on these rations successfully for twelve months. I have also put the figures before the best experts, and so far no one has seriously disputed their suitability.

"Your Chairman, some months ago, thought my figures 'proved too much.' I therefore put them to another and very severe test. I converted the whole of the German crops into starch units of nourishment, and then worked out what all the animals kept in Germany would have consumed in starch units had they been fed on the 'Agricola' rations. (Schedule III.—Germany v. 'Agricola' Starch equivalents.)

"The results show that in total, the proposed rations for English animals correspond almost exactly with the German practice.

"I claim, therefore, that these figures demonstrate that we can produce not only all our bread and potatoes, but all the food needed for the animals producing our meat, milk, cheese, &c., and most of our butter, if we crop the soil of the United Kingdom in a proper rotation suitable to the national needs.

"What must be done to produce these results? First, it means breaking up 4,000,000 acres of grass land; second, we must grow wheat in England at least one year out of three, produce more oats and barley in Scotland and Ireland, and also produce an increased yield of about 20 per cent. of hay and vernal through an increased consumption of basic slag and other phosphatic and nitrogenous manures.

"The 'Agricola' scheme will also require the import of an additional 1½ million tons of oilcake (Germany before the War imported 2,000,000 tons, largely from our Colonies). If we require that we should keep nearly two million more cows, several millions more young horned cattle, and that we should increase our pigs threefold."

SCHEDULE I.—"AGRICOLA" SCHEME OF CROPPING.

TABLE SHOWING HOW THE PRESENT CULTIVATED AREA OF THE UNITED KINGDOM CAN, ON A DIFFERENT METHOD OF CROPPING, PRODUCE ALL OUR FOOD REQUIREMENTS.

CROPS.	PRODUCED At present.	Pro- duction At present Average.	CONSUMPTION. Quantities required to Feed all Humans and Animals.				
			Horses.	Oxide.	Sheep.	Pigs.	Total.
WHEAT. Equal to ...	Acres.	Total Tons	Tons.	Tons.	Tons.	Tons.	Qrs (32,000,000) Tons.
Floor (the United King- dom's needs).	—	4,800,000	—	—	—	—	—
Straw, Middlings and other Offals.	—	2,070,000	—	1,388,540	—	1,388,000	2,524,000
Stew	—	12,000,000	5,788,000	6,200,000	—	—	11,986,000
BARLEY, BEANS AND PEAS...	4,000,000	—	—	—	—	—	—
Grain	—	1,350,000	—	—	—	1,350,000	1,350,000
Stew	—	5,000,000	—	3,300,000	805,500	1,000,000	5,005,500
OATS (chiefly Scotland and Ireland).	5,000,000	—	—	—	—	—	—
Grain	—	3,450,000	3,128,000	—	321,000	—	3,449,000
Stew	—	6,250,000	—	5,402,000	805,500	—	6,207,500
POTATOES	1,000,000	6,500,000	—	—	—	—	—
TURNS	2,000,000	30,000,000	—	16,735,000	12,860,000	—	29,595,000
MANGOLIN	1,000,000	25,000,000	2,387,000	20,782,000	—	1,350,000	25,000,000
CLOVER, &c.	3,000,000	5,250,000	1,408,500	2,008,000	—	—	3,416,500
TOTAL ARABLE CULTIVATION }	24,000,000						
MEADOW HAY	6,000,000	9,000,000	2,000,000	5,841,000	805,000	—	8,146,000
GRASS FOR GRASSING...	18,000,000						
TOTAL CULTIVATED AREA }	48,000,000						
IMPORTED :—		Imported now.					
CAKES—							
Linnseed	—	—	—	361,500	—	—	361,500
Deoatified	—	2,000,000	—	1,607,000	—	—	1,607,000
Cocount, Soya, Cotton	—	—	—	1,485,000	241,000	—	1,726,000
		Imported 1913.					3,694,500
MAIZE AND MAIZE MEAL	—	2,450,000	345,000	—	—	1,800,000	2,233,000

SCHEDULE II.—"AGRICOLA" RATIONS FOR ANIMALS.

(A.) FOOD OF HORSES AND COLTS: RATIONS PER HORSE AND COLT PER ANNUM.

	OATS.		HAY.		STRAW.		MAIZE.		MANGOLIN.		GRASS.	
	At lbs. per day.	Total lbs. per horse per ann.	At lbs. per day.	Total lbs. per horse per ann.	At lbs. per day.	Total lbs. per horse per ann.	At lbs. per day.	Total lbs. per horse per ann.	At lbs. per day.	Total lbs. per horse per ann.	At lbs. per day.	Total lbs. per horse per ann.
WORK HORSES—												
200 days	12	2,400	10	2,000	15	3,000	2	400	15	3,000	—	—
100 "	8	800	5	500	10	1,500	—	—	—	—	60	6,000
60 " resting ...	4	240	10	600	20	1,200	—	—	—	—	—	—
PER ANNUM ...	—	3,440	—	3,100	—	5,800	—	400	—	3,000	—	5,000
COLTS (Average)—												
355 days	2	730	10	3,650	10	3,500	—	—	—	—	20	7,300

(3.) TOTAL FOOD PER ANNUM FOR HORSES AND COLTS.

	1,000,000 WORK HORSES.		500,000 COLTS.		TOTAL per ann.
	At lbs. per Horse per ann.	Total Tons per ann.	At lbs. per Colt per ann.	Total Tons per ann.	
Oats	3,460	2,965,000	780	165,000	3,130,000
Hay	3,150	2,520,000	3,620	815,000	3,335,000
Straw	5,800	4,971,000	3,650	815,000	5,786,000
Maize	400	343,000	—	—	343,000
Mangolds	3,000	2,557,000	—	—	2,557,000
Grass	6,000	4,714,000	7,500	1,580,000	5,344,000

(c) CATTLE—DURING 180 WINTER DAYS.

	1,000,000 Calves, 6-12 miles old.		2,000,000 6-12 miles old.		2,000,000 12-18 miles old.		2,000,000 18-24 miles old and Dry Cows.		500,000 Fattening Stock.		1,500,000 MILKING Cows.		Total for 180 Winter Days.
	Lbs. each per day.	Total for 180 days.	Lbs. each per day.	Total for 180 days.	Lbs. each per day.	Total for 180 days.	Lbs. each per day.	Total for 180 days.	Lbs. each per day.	Total for 180 days.	Lbs. each per day.	Total for 180 days.	
Wheat and Oat Straw	—	—	5	900,000	15	2,700,000	20	3,600,000	15	2,700,000	10	1,800,000	14,000,000
Heather Hay	2	321,000	5	900,000	4	720,000	5	900,000	5	900,000	5	900,000	3,541,000
Clover Hay	—	—	—	—	—	—	—	—	—	—	—	—	—
Mangolds	3	482,000	—	—	—	—	—	—	—	—	—	—	—
Turnips	3	482,000	5	900,000	20	3,600,000	30	5,400,000	—	—	—	—	10,382,000
Linnard	—	—	—	—	—	—	—	—	—	—	—	—	—
Decorticated Cakes	1	180,000	—	—	—	—	—	—	—	—	—	—	—
Cotton, Rape, or Cocoa- nut Cakes	—	—	2	360,000	2	360,000	3	540,000	—	—	4	720,000	1,980,000
Bees	—	—	—	—	—	—	2	360,000	—	—	2	360,000	1,080,000

DURING 180 SUMMER DAYS cattle will be out at grass, the following Cakes Allowances being made to Fattening Cattle only, viz. :—

3 lbs. of cake and 5 lbs. of clover hay.

(d) SHEEP.

	12,000,000 - EWES AND LAMBS. For 60 days.		12,000,000 SHEEP FATTENING. For 90 days.		24,000,000 SHEEP. For 120 days.		TOTAL Tons per annum.
	At lbs. per day.	Total Tons.	At lbs. per day.	Total Tons.	At lbs. per day.	Total Tons.	
Oats	1	321,000	—	—	—	—	321,000
Oat and Barley Straw	1	321,000	—	—	1	1,286,000	1,607,000
Hay	1	321,000	1	482,000	—	—	803,000
Turnips	5	1,605,000	10	4,821,000	5	6,430,000	12,856,000
Cake	—	—	1	241,000	—	—	241,000

(e) PIGS.

	6,000,000 GROWING (3-6 months). For 90 days.		2,000,000 FATTENING (6-10 months). For 500 days.		500,000 HOGS. For 600 days.		TOTAL Tons per annum.
	At lbs. per day.	Total Tons.	At lbs. per day.	Total Tons.	At lbs. per day.	Total Tons.	
Pollard, Sharps and Middlings	1	978,000	—	—	2	200,000	1,178,000
Barley, Meal, Beans and Peas	1	978,000	3	978,000	—	—	1,956,000
Maize Meal	1	978,000	2	652,000	2	200,000	1,830,000
Potatoes (boiled)	—	—	2	652,000	—	—	652,000
Mangolds	2	1,956,000	—	—	—	—	1,956,000
Straw	—	—	—	—	—	—	1,000,000

SCHEDULE III—GERMANY & "AGRICOLA" STARCH EQUIVALENTS.

TABLE SHOWING COMPARISON IN STARCH EQUIVALENTS BETWEEN ACTUAL CONSUMPTION OF FOOD BY ANIMALS AND CALCULATED CONSUMPTION UNDER "AGRICOLA" SCHEME.

	ACTUAL CONSUMPTION.			CONSUMPTION UNDER "AGRICOLA" SCHEME.		
	Total Consumption.	As Starch Equivalents.	Starch Equivalents.	Total Consumption.	As Starch Equivalents.	Starch Equivalents.
	Tons.		Tons.	Tons.		Tons.
FEEDING STUFF RATIONS.						
Wheat and Rye offals	5,134,960	0.54	2,888,860	5,375,000	0.54	2,902,500
Barley	5,667,980	0.74	4,218,780	4,888,000	0.74	3,617,100
Beans and Peas	1,654,800	0.69	1,141,200	—	—	—
Oats	2,807,000	0.63	1,806,610	5,920,000	0.63	3,733,380
Maim and Maim Meal	904,000	0.84	769,360	5,977,000	0.84	4,208,280
Linned and Oil Seeds	1,129,000	1.19	1,343,510	351,000	1.19	423,590
Turnip and Rape	812,000	1.00	812,000	—	—	—
Oilcakes	525,000	0.55	292,500	5,000,000	0.55	2,804,650
TOTAL FOR FEEDING STUFF RATIONS	25,113,600	—	17,618,960	27,016,000	—	17,955,320
ROOT RATIONS.						
Managolds	31,000,000	0.07	2,585,000	—	—	—
Turnips	10,050,000	0.07	704,800	—	—	—
Potato and Sugar Beet Residues from Distilling, &c., say ...	—	—	—	52,127,000	0.06	3,748,880
	15,000,000	0.15	2,250,000	—	—	—
TOTAL ROOT RATIONS	61,000,000	—	5,539,800	52,127,000	—	3,748,880
FORAGE RATIONS.						
Hay	30,015,000	0.24	7,203,600	19,057,000	0.24	4,578,680
Wheat and Rye Straw	22,000,000	0.11	2,420,000	—	—	—
Barley Straw	5,000,000	0.17	850,000	35,618,000	Average 0.14	4,988,480
Oat Straw	13,500,000	0.20	2,700,000	—	—	—
Mixed Corn	2,228,000	0.10	2,228,000	—	—	—
" Straw	2,000,000	0.20	400,000	—	—	—
	84,743,000	—	16,933,600	54,685,000	—	9,567,160
Needed for Winter Rations ...	54,689,000	—	9,562,150	—	—	—
Surplus for Summer Feeding of Excess Cattle ...	30,054,000	—	6,671,040	—	—	—

APPENDIX V.

NUMBER OF PERSONS ENGAGED IN AGRICULTURE IN THE UNITED KINGDOM AS RETURNED AT EACH CENSUS FROM 1831-1911.

Year.	Farmers and Grainers, &c.		Farmers' relatives.	Farm employees.		Total.	
	Males.	Females.	Males.	Males.	Females.	Males.	Females.
<i>England and Wales.</i>							
1831	276,687	(b)	(c)	799,875	(b)	(c)	(c)
1841	329,660	19,172	(c)	932,455	37,294	(c)	56,466
1851	326,515	22,386	111,794	1,114,906	143,021	1,435,124	166,237
1861	326,967	21,776	94,331	1,106,279	90,949	1,425,537	113,027
1871	335,569	24,358	74,328	935,145	57,988	1,237,040	69,286
1881	305,529	20,814	75,197	849,329	40,346	1,125,555	60,360
1891	301,818	21,632	67,287	774,782	28,150	1,063,967	45,842
1901	302,751	21,548	89,185	631,728	12,002	1023,444	55,850
1911	208,781	20,027	97,689	685,258	13,245	971,708	33,273
<i>Scotland.</i>							
1831	79,853	(b)	(c)	87,292	(b)	(c)	(c)
1841	51,032	3,798	(c)	143,215	18,511	(c)	22,304
1851	48,658	4,345	24,168	143,738	54,527	221,609	59,392
1861	54,677	4,410	17,466	139,359	40,852	210,889	47,963
1871	48,396	4,217	34,473	122,227	42,775	205,606	49,550
1881	48,116	3,967	16,191	105,598	44,172	162,900	51,220
1891	47,525	4,207	17,031	98,718	22,052	163,294	28,862
1901	45,573	7,523	17,550	88,091	10,810	151,214	27,632
1911	43,968	6,712	15,827	87,832	15,037	146,435	31,749
<i>Ireland.</i>							
1831	639,613	(b)	(c)	567,441	(b)	(c)	(c)
1841	453,268	18,134	(c)	1,228,771	125,649	(c)	144,663
1851	384,689	19,707	(c)	935,077	148,679	(c)	148,523
1861	413,491	27,391	(c)	799,219	88,169	(c)	116,550
1871	392,351	31,890	16,473	665,895	81,560	1,074,620	113,540
1881	332,342	53,586	189,576	434,292	45,774	1,066,260	108,260
1891	343,486	68,568	212,731	374,147	27,043	965,313	95,611
1901	325,553	70,534	214,261	335,084	16,542	879,198	87,076
1911	229,473	54,694	169,246	344,302	5,287	842,021	59,981
<i>United Kingdom.</i>							
1831	1,015,503	(b)	(c)	1,454,698	(b)	(c)	(c)
1841	735,410	41,100	(c)	2,299,841	182,564	(c)	(c)
1851	699,262	47,638	(c)	2,196,715	346,224	(c)	(c)
1861	695,185	56,579	(c)	2,042,867	220,061	(c)	(c)
1871	626,216	62,545	127,274	1,735,266	128,711	2,516,756	245,256
1881	633,787	87,287	280,964	1,393,704	120,292	2,304,455	217,530
1891	597,878	97,067	297,089	1,247,627	75,248	2,142,604	176,315
1901	577,177	89,904	320,276	1,054,903	48,304	1,953,036	148,258
1911	481,300	81,433	288,562	1,097,992	35,569	1,962,754	115,099

(a) Includes in the case of Scotland "Peasants" and "Portioners."

(b) Presumably included with males.

(c) No return.

(d) Not returned as such (except for Great Britain in 1851 and 1861).

Notes.

(1) It must be remembered that the basis of the above figures is the description which each household gives of himself, and the members of his household. The number of farmers and grainers shown above bears no relation to the number of persons occupying agricultural land, but represents only such as described themselves as farmers or grainers on their Census schedules, by reason of farming or grazing being their only, or principal, source of livelihood. In Ireland, for example, the number of agricultural occupiers in 1911 above 5 acres was 421,195, while the number of farmers and grainers according to the Census Returns was 229,473.

(2) Owing to the different methods of classification, the returns for 1831 and 1841 do not afford reliable comparisons either with each other or with later years, and the same stipulation applies more or less to the 1851 census. With regard to later censuses also it should be remembered that occupation definitions do not carry precisely the same significance decade by decade, and consequently close comparisons are not justified.

(3) Farmers' female relatives are excluded as they are largely engaged in domestic duties and cannot be regarded as mainly employed on the work of the farm.

(4) "Farm Employees" comprise (in the later censuses) Farm Bailiffs, Foremen, Shepherds, persons in charge of horses and cattle, and ordinary farm labourers, but in the reports for earlier years such detailed classifications are not given. In 1861 "drovers" are included for Ireland, as in the Irish return for that year "herds" were comprised in the category "herds and drovers."

(5) The figures for the later censuses relate to persons aged 10 years and upwards, but the returns for 1841 (and 1851 in the case of Ireland), compare also children below 10 years, while the occupation census of 1831, was apparently confined to persons of 20 years and upwards.

(6) Persons engaged in market gardening and other auxiliary agricultural pursuits, are excluded on account of the difficulty of giving comparative figures for the different censuses.

(7) The figures from 1831 onwards exclude the retired, who are included in some or all of the earlier censuses.

APPENDIX VI.

THE EDUCATION OF LANDOWNERS AND OF LAND AGENTS. (See para. 178.)

1. The education of surveyors, land agents, and landowners can be considered together. It must be begun in the schools and should be continued in the agricultural colleges and in the universities. Few professions demand a wider range of knowledge than that of a land agent. He should possess an intimate knowledge of agriculture, forestry, building construction, accounts, local and imperial taxation, drainage, the Agricultural Holdings Act, the Settled Land Acts, and other statutes dealing with landed property; he should also have an acquaintance, real in character, though perhaps less complete than is necessary in connection with the subjects already mentioned, with agricultural chemistry, geology, botany, zoology, water supply, sanitary science and local government questions.

2. Specialisation in the early education of the land-agent is not advanced. A profession covering so wide a range of subjects requires a thoroughly sound general education in order fully to develop the mental faculties. An exclusively technical education, or an education too closely directed towards a particular profession, would confine the mind in too narrow a channel of thought. A thoroughly sound school education, of such a character as will tend to cultivate the powers of reasoning and observation, is the best foundation on which to base the technical training which must follow.

3. Since the foundation of the Royal Agricultural College, Cirencester, in 1845, various university and collegiate centres have instituted suitable courses of instruction for intending land-agents, and the nation owes a debt of gratitude to those who have founded and worked these institutions. Provided that the necessary funds are available, it is generally agreed that such a course, to follow the school education, is to be recommended. A university education is doubly valuable in that it not only stimulates the mental faculties and prepares them to assimilate the practical training which must come after, but it should give the recipient a knowledge of men and a wider range of culture and sympathy which cannot but be of advantage to those whose business brings them into relationship with all classes of the community.

4. The Council of the Surveyors' Institution have recognised the advantage of the best possible professional education being placed within the reach of those ambitious of attaining the highest ranks of the profession, and have established scholarships tenable at universities of a total value of £790 per annum. The Surveyors' Institution has in fact done great service in this whole matter, but its efforts have been unsupported by the public schools, and only recently aided at Oxford and Cambridge. A young man cannot become a member of that institution unless he has passed a searching examination and become qualified for his profession. Many land-agents have qualified for surveyors, but it is an astonishing fact that men are sometimes appointed agents for agricultural properties who have not only passed no examination, but who have had no experience whatever either of agriculture or of estate management. It is evident that landowners who make such appointments can have little perception themselves of the responsibilities, difficulties, or opportunities of land ownership. Happily there are a great number of land-owners and land-agents who do know this and who set an example of inestimable value; but the fact remains that, in addition to those who are actually incompetent, there are a large number of excellently intentioned persons who do not realise that land ownership is neither an incident nor an accident of life but a profession, and, what is more, a difficult and exacting profession, and one which to a properly trained, hard-working and competent man may be made far more remunerative than is generally supposed. It is quite certain that if a land-owner knows his business, and is prepared to put into that business as much energy as is required for success in any other profession, if in fact he is ready to give the full hours of a working day to it according to the size of his property, not only will everybody living on his property be more prosperous and happy, but the financial prospects of his own family should be greatly improved. If his property is small enough to be managed single handed, it is well if he can manage it himself. If it is larger, and he has the good fortune to have secured a good agent, the value of that agent's services and his satisfaction in his work will be doubled, if the landowner understands his business and gives his constant and sympathetic attention to it. If he has not secured the services of a good agent but does attend to his business, he will quickly appreciate the unfitness of his agent and make a change, or by criticism and guidance he may turn an indifferent agent into a good one. No one who has studied this question but is aware how much less return some estates yield to their owners than they would yield with better management. Therefore, it is necessary to dwell on the strictly business aspect of the case. But there is another aspect on which we wish to lay all the emphasis at our command, the unique opportunity which a landowner possesses of contributing by his personal wisdom, influence, and sympathy, to the welfare and happiness of all of every class who live upon his property. Herein lies the charm and attraction of ownership. But the influence must be personal, and the knowledge must be direct. The efficient agent cannot be properly supported nor the incompetent agent be properly checked by a landowner who does not know his business or take his responsibility seriously. We lay stress on these circumstances because there are critics who consider the landowner a fifth wheel in the agricultural coach, and because we believe this opinion to be wholly erroneous. We have pointed out in paragraphs 46 to 51 of Part I. of this Report that the landowner finds for the farmer both the land to farm and the industrial equipment of the land which alone makes farming possible; but if the landowner

did not make this double contribution of capital to the operation of farming, the burthen of this contribution must be cast upon the State, for only a minority of farmers could carry it. And there is a greater service still which the landowner can render to the commonwealth, and that is leadership in all forms of county government, in the amelioration of country life, and in progressive agriculture and forestry. It is just this power of leadership which we wish to see developed by all possible means at the universities.

5. Almost all landowners pass through one or other of the greater public schools, but what have the public schools done hitherto to bring home to them their special duties and opportunities? To which of them has land-owning been spoken of as a profession comparable to any other hard-working and interesting profession? Where has agriculture been mentioned as a fascinating art? It is not suggested that agriculture can be taught at public schools, but something of rural economy, of the history of the land, and of the importance of chemistry to agriculture can be taught, and it is important that boys should have the opportunity, while yet at school, of appreciating, however dimly, what manual labour feels like by some practical work on the land such as has been going on at all the public schools during the war. Above all, the opportunity should not be missed of striking the imagination of those who are going to be landowners.

6. At the universities the opportunity for influence is greatly enlarged. The teaching and the schools should be definitely organised so as to meet the needs of future landowners, whether they take an honour school or a pass degree. There is no suggestion that landowners should not be encouraged to take the utmost advantage of the best teaching the university can give them. What is suggested is that an adequate supplementary course in agriculture should be offered to those who study in the more famous schools, and that to those who have no special inclination towards philosophy or mathematics, towards science or history, the opportunity should be given of a degree in which agriculture and rural and social economics might largely figure. We suggest to parents who are landowners that it is of vital importance to their sons, who will become landowners, that they should take such a degree or an agricultural diploma after taking an honours or ordinary degree.

7. After the university course has been taken some further help and encouragement is required for those who mean to adopt land-owning as their profession. The most promising of these students will need continuation scholarships while they are articled in a land agent's office. The danger is that, unless such a prospect is open to them, they may not be able to afford to spend two or three years at the university. The Surveyors' Institution has set an excellent example by endowing scholarships of this sort at the universities, and we hope that from one benefaction or another post-graduate scholarships may also be established.

Agricultural Education at the Universities.

8. We have elsewhere mentioned the work being done for agriculture in other universities; the stress we now lay upon Oxford and Cambridge is due solely to the fact that the great majority of landowners go to one or other of these two older universities. We think it well to put on record what is actually being done there for agriculture and what may be done.

9. The School of Agriculture at Cambridge is equipped with fine buildings convenient for teaching, study and research; it is provided with a farm of 230 acres for teaching and experimental purposes and with another of the same size for research in Plant Breeding; it has a large staff of professors and lecturers and technical assistants; and its work consists of—

- (i) Courses of instruction for—
 - (a) the Special Examination in Agricultural Science;
 - (b) the Diploma in the Science and Practice of Agriculture.
- (ii) Investigations in agriculture and the sciences relating thereto.
- (iii) Examination and inspection of agricultural institutions.
- (iv) The supply of lecturers to the adjoining counties.
- (v) Supplying information in answer to enquiries on points connected with agriculture and agricultural science.

10. A student who wishes to obtain the ordinary B.A. degree in Agricultural Science before beginning this course must have passed the previous examination, Parts 1 and 2, and the Preliminary Scientific Examination or a Special Examination, and his subjects of study are Agricultural Chemistry Physics Botany and Zoology, the Principles and History of Agriculture, with Geology and Forestry as recommended additional subjects.

11. The examination for the Diploma in the Science and Practice of Agriculture is divided into two parts. Part 1 is the same examination as the Special Examination in Agricultural Science, but a student can be admitted to it without passing the previous or other examination and without joining the University or residing in Cambridge. Candidates for the Diploma are, however, urged to take the Natural Sciences Tripos, Part 1, with Chemistry, Botany, and either Zoology or Physiology as their subjects. They are then excused the whole of the subjects in the examination for the first part of the Diploma except the Principles of Agriculture, and at the same time can obtain an honours degree. Part 2: a candidate for this examination begins his course by attending the classes on the University Farm during the first long vacation after he has passed his Natural Sciences Tripos or his examination for the first part of the Diploma; and, during the next year, he must attend courses in Agricultural Chemistry, Botany and Physiology, and in Agriculture, while Agricultural

Physics, Zoology, and Geology, the Parasites of Domestic Animals, the Principles of Cross-Breeding, the History and Economics of Agriculture, and Statistics are offered as choices of voluntary subjects. Moreover, facilities are provided for advanced study or research under the staff of the Department.

12. Further developments are now under contemplation by which the college estates and the office from which some of them are managed may be utilised in the agricultural teaching of the University. It is proposed to build up a School of Research Economy, in which should be included the existing School of Agriculture and central Land Office, to which the University and colleges should be invited to entrust the technical part of the management of their estates, and one side of the existing School of Architecture. We have here evidently a flourishing school doing a great work and with a great future before it.

13. At Oxford there is a School of Rural Economy which has been established on the Sibthorpian Foundation, and a Director of Research into Agricultural Economics. Both departments are housed in the same building, but they are independent of each other, not parts of one whole. The School of Rural Economy has a small staff and modest equipment, and it has no farm attached to it. There is at present no degree corresponding to that of Agricultural Science at Cambridge, but there is a Diploma in Agriculture and Rural Economy. The course of study for the Diploma must extend over two academical years and must be pursued at Oxford; but members of the University who have kept by residence all the terms required for the Degree of Bachelor of Arts may be permitted to pursue it elsewhere. It comprises the following subjects: Principles of Agriculture, Elements of Chemistry, Elements of Botany, Rural Economy, Agricultural Chemistry, Agricultural Zoology, Surveying, and at least one of the three subjects—the Elements of Economics, the Elements of Forestry, the Elements of Geology. The examination for the Diploma is held annually about July 1st. It includes written work, practical work, and a viva voce examination. Every candidate must (1) have been admitted as a student for diploma; (2) have satisfied the examiners in the preliminary examination in the Honour School of Natural Science in Chemistry; (3) have satisfied the examiners in the Pass School in the Elements of Rural Economy; (4) possess a sufficient knowledge of Surveying; and (5) present certificates showing that he has attended approved courses of instruction in the subjects which he offers. In addition to granting the Diploma in Agriculture, the University also recognises Rural Economy as a subject for the ordinary B.A. degree. The scope of the subject for this purpose is the same as that included under principles of agriculture in the diploma course.

14. It cannot be said that the school at Oxford has as yet caught on or acquired influence as it has at the sister University. At the present moment, however, a proposal for the institution of a Degree in Agriculture is under consideration. Considering the large number of landowners' sons who go to Oxford, it appears to us to be a matter of great importance that the Oxford School of Rural Economy should be so developed that, after the war, the interest of these men may be aroused in the history of English land and of its tenure, that they may learn something of the laws and of the economics which specially affect country life, and that their imagination may be stirred to realise the great responsibilities and opportunities of the profession to which they have been born. The work of Professor Adams in relation to Political Science has a direct bearing on the special work of Professor Somerville and of Mr. Orwin. All the materials seem to exist for the development of a famous school.

APPENDIX VII.

EXTRACT FROM THE REPORT TO THE BOARD OF AGRICULTURE AND FISHERIES OF AN ENQUIRY INTO AGRICULTURAL CREDIT AND AGRICULTURAL CO-OPERATION IN GERMANY BY Mr. J. R. CAHILL (Cd. 6626, 1913). (See para. 205.)

AGRICULTURAL CREDIT.

MORTGAGE (LONG-TERM) CREDIT.

"In the number and variety of the agencies through which they can obtain long-term mortgage credit on relatively easy conditions, landowners in Germany, both large and small, enjoy signal advantages as compared with the corresponding classes in this country. Setting aside for the moment the Joint Stock Mortgage Banks, the whole of these agencies are in the nature of governmental, non-profit-making institutions using the word "governmental" in a sense that would comprise the State, provincial, district, municipal (or communal) authority as well as those corporations of landowners which rank as public bodies. The various agencies may be divided into three main classes according to the purposes for which their loans are granted. In the first class there are four groups of institutions, namely, the Land Mortgage Credit Associations (Landesbanken), the State, Provincial, and District Mortgage Credit Banks, the Joint Stock Mortgage Banks, and the Savings Banks, all of which grant mortgage credit without requiring, in ordinary circumstances, any declaration as to the purpose of the loan. The second group comprises the Land Improvement Funds, the Land Improvement Assurity Banks, the Provincial Aid Banks, and the Imperial Insurance Institutions, all of which grant loans mainly for specific land improvement or building undertakings. The third group is that of the Rent Charge Banks, which are concerned with loans in connection with the creation and equipment of small holdings.

"By far the most important class is the first; at the present time the total value of the outstanding loans granted on landed properties by the institutions comprised in it approaches £400,000,000. The Land Mortgage Credit Associations and the Savings Banks are represented in this total by about £170,000,000 each. With the exception of the Savings Banks and of the relatively unimportant Prussian Land Improvement

Funds all these mortgage credit organisations obtain funds mainly (when not exclusively) by the issue of land mortgage bonds. Thus, the German landowner, by virtue of his institutional mortgage credit, is enabled to mobilise, as it were, a high proportion of the value of his landed property by the creation of bonds that flow into the general system of securities, so that instead of only being able, like the English landowner, to provide an individual mortgage security of very limited currency, he possesses facilities for converting a mortgage charge into a security realisable at any time in the general market.

"The loans granted by the Land Mortgage Credit Associations are not subject to recall; the rate of interest is as moderate as possible, being closely related to the prevailing market rates for money, and cannot be raised; and while annual payments are required until at least a certain percentage of the capital debt has been accumulated in a sinking fund, repayment may be made by additional instalments at the mortgagor's convenience. Costs arising in connection with valuation and other preliminary expenses are kept as low as possible, and are often waived by the well-established Associations; the necessary contributions towards the cost of administration of the Associations are, moreover, relatively inconsiderable, as the office holders, apart from the Syndics, usually give their services gratuitously. Proper consideration of loan applications is secured by the fact that these organisations are thoroughly conversant with agricultural conditions, and are in a position to appraise the value of estates and the business capacity of owners through their local representatives, who are themselves agriculturists and members. Through these local representatives, who, as members, are directly interested in the good management of their Associations, the Associations are also enabled to secure continuous supervision of the mortgaged security without incurring expense.

"German Savings Banks are mortgage credit institutions of very great importance for farmers; in 1910 their total investments in rural mortgages may be estimated at £170,000,000. At that date Prussian Savings Banks alone, out of the total of their invested funds, which amounted to £578,000,000, had £115,000,000 outstanding on the security of rural property. They are pre-eminently, especially in Western Germany, the sources of mortgage credit for small and medium farmers, whom they accommodated also at a time when no other mortgage institutions were open to them; and they now provide, in effect, nearly every district with a public mortgage credit institution.

"From the foregoing summary of the organisation of German mortgage credit it will be seen that German landowners both large and small, are amply provided with credit agencies which, mainly of a public character and non-profit-seeking, grant loans up to one-half or two-thirds of the valuation on first mortgage at moderate and unchangeable rates of interest, not subject to recall, and repayable by small annual instalments to sinking funds, with facilities to make additional repayments on giving short notice. The Joint Stock Mortgage Banks form an exception in respect of profit-seeking, but the Mortgage Bank Act secures certain important advantages for landowners, and the Savings Banks, although in theory they are debarred from granting loans not subject to recall, do in fact lend a considerable amount against redeemable mortgages (which are not subject to recall), and, as regards the balance, are seldom forced to exercise their right of recall. Although not aiming at profits, these organisations are able to realise surpluses, the State and other Provincial or District Institutions, as well as the Savings Banks, contributing considerable sums annually to their guaranteeing authority for public purposes; while the *Landchaften*, especially as a result of auxiliary business (e.g., their *Lease Banks*), are able to apply substantial sums to the relief of the indebtedness of their members.

"The organisation of German mortgage credit presents the further important feature of decentralisation. The savings banks provide nearly every district with a public mortgage credit institution; and the special organisation or organisations for mortgage credit in each Prussian Province, or in each State, bring their services within the convenient reach of farmers throughout their area by their system of local representatives.

"The organisation of institutional mortgage credit in Germany has been immensely facilitated by the complete system of registration of title in that country. The uniform system, based on the Prussian model and introduced for the Empire in 1900, provides for obligatory registration of title, priority of each registered charge in the order of its registration, and freedom of inspection of the registers. These registers, drawn up for small areas and maintained by them, describe each estate and recite all personal charges (e.g., usufructuary rights) and other charges, and, in general, no claims against such estates not duly registered are valid in a court of law. It may be added that the total costs in connection with the registration or cancellation of mortgages are moderate. The registration of a mortgage charge for £500 in Prussia costs £5, and its cancellation half that amount, including in each case the notarial and court fees. Compulsory registration of title as it exists in Germany, Austria-Hungary and Russia, or at least compulsory registration of deeds (as in France, Belgium, Holland, North America and elsewhere), appears an indispensable prerequisite for the foundation of a system under which landowners may obtain mortgage credit on suitable terms by the creation of land banks which would take their place as first-class securities in the open market. In Ireland registration of deeds has been in force since the eighteenth century, and by reason of the transactions under the Land Acts, registration of title has taken place with regard to a great portion of the country; in Scotland there is registration of deeds; but in England the system of registration of deeds appears to be in operation only for Middlesex and Yorkshire, and of registration of title only for London.

PERSONAL (SHORT-TERM) CREDIT.

"Under this heading is considered credit based mainly on the security of the general standing of the borrower, or of the borrower and his surety, as well as on an implicit estimate of his or their assets in the event of ultimate default, as distinct from credit based on the definitely assigned security of real property. The former credit tends to have the further distinction of being sought and granted for relatively short terms.

"German farmers have advanced very far towards the solution of the problem of obtaining adequate credit at moderate rates of interest and on convenient terms of repayment by means of the 17,050 local co-operative banks established and conducted by themselves, such banks being further organised in central co-operative banks. The membership of 14,933 local banks existing on January 1, 1910, totalled 1,467,758 persons, a figure which represented one-sixth of the agriculturally occupied population of Germany in 1907; the total turnover in 1910 of 14,729 societies amounted to £291,005,000, and, at the end of that year, the loans outstanding for fixed periods, together with overdrafts, to £98,084,000, while at the same date the savings deposits totalled £82,629,000, and the deposits on current account £10,865,000. At the end of 1911 there were affiliated to 37 central banks (omitting the Prussian State Co-operative Bank) 17,668 societies of all kinds, of which 14,598 were credit societies; and the total turnover of these central banks in that year amounted to £410,391,000.

"Despite this multitude of *Raiffeisen* banks, their large membership and business, Professor Riemer, the most eminent authority on German commercial and industrial banking, writing in 1913, observed that much still remained to be done and must be done in this direction, as 'agriculture requires a credit system adapted to the special nature of the conditions of its production.' And a distinguished Prussian Minister of Finance, in the course of a Parliamentary debate on the budget of the Prussian State Central Co-operative Bank, for whose foundation he was directly responsible, declared: 'This must be our goal—to have a co-operative loan bank in practically every parish of the whole monarchy.'

"The first Association founded by *Raiffeisen*, in which the fundamental co-operative idea of the collective liability of the borrowers themselves appears, was that of Anhausen (1862). There were already in existence

co-operative societies with unlimited collective liability, which had been created by Schulze of Dellbrück, a small town in the Province of Saxony, for the purpose of procuring credits for their members, who were mainly artisans, small employers of labour, and small shopkeepers. But Raiffeisen had in view the needs of agriculturists.

"At the present time the majority of Raiffeisen banks in Germany may be said to present the following features:—

- limitation of area, so as to secure mutual personal knowledge on the part of members;
- low shares;
- permanent indivisible reserve fund;
- unlimited liability of the members;
- loans only for productive or provident purposes;
- loans only to members;
- credit for relatively long periods with facilities for repayment by instalments;
- the determination every year by the members of each society of the maximum credit that may be held by individual members at any time as well as of the maximum total of saving deposits receivable and of loans that may be taken up by the Society;
- absence of profit-seeking, dividends if paid being usually limited, as a maximum, to the rate of interest paid by borrowers for loans;
- office holders, with the exception of the Secretary, not paid for their services;
- promotion of the moral as well as the material advancement of members, and in particular the purchase of agricultural requisites for sale to members, and often the procuring of agricultural machines and implements for letting on hire to members.

"The principal functions of Raiffeisen banks are: (1) to meet the needs of their members for supplementary personal credit or current working capital, (2) to promote thrift among the rural population by receiving their savings, as well as the savings of non-members, and paying interest thereon, and (3) to act in general as the village bankers. They are not meant to supply members with their entire working capital, but to supplement it; and, speaking generally, they supply such credit mainly on personal security and for productive or provident purposes. Loans are also frequently granted for part of full payment for holdings in those parts of Germany where smallholdings predominate; and a certain number of credit societies have carried out, with good results, the purchase and breaking up of fairly large properties.

"These societies pay from 3 to 4 per cent.—at least 70 per cent. appear to pay 3½ per cent. and over—on deposits; and they endeavour to obtain deposits not only from members, but from non-members of every age and class. Savings boxes are distributed, saving stamps and saving cards of various values are sold, and every suitable means taken to collect the uninvested money of the community. As a result of their efforts in this respect the savings of rural communities are utilised for the purpose of further wealth production in the same area.

"But it may be asked: what course is taken when deposits are insufficient (or even non-existent, as upon the establishment of a society) or when they are over-abundant? As a rule, credit is obtained, or any excess of deposits over current needs lodged, at a central co-operative bank. From the beginning Raiffeisen recognised the necessity for combination among rural credit societies so as to provide them with a permanent centre at which depositing and borrowing might be advantageously transacted by non-profit-seeking organisations which at once understood and took account of the special financial structure of co-operative societies and of the conditions of their business. At the present time over 10 per cent. of the rural credit societies are shareholders or members of co-operative central banks, of which there are nearly fifty (including as separate banks the twelve branches of the Raiffeisen Central Loan Bank) in Germany.

"These central banks are organised according to provinces or States. The German Agricultural Central Loan Bank, founded by Raiffeisen in 1876, extends its operations over the whole of Germany, but it has decentralised its business by the creation of 12 branches, which limit their operations to fixed areas co-extensive with a province, part of a province, or adjoining provinces. A State or congeries of small States, and which form in fact provincial banks. The other central banks in Prussia are attached to the Prussian State Central Co-operative Bank, which occupies in regard to them in some respects the same position as the Raiffeisen Bank occupies in regard to its branches. The scheme of organisation for Prussian Societies is, therefore: (1) local societies balancing as far as possible monetary supply and demand among their members, (2) provincial banks adjusting similarly the needs of their constituent local societies, (3) larger organisations at Berlin (namely, the State Bank and the Raiffeisen Central Loan Bank) balancing supply and demand among the central banks, obtaining necessary credits, and making necessary investments on the money market, for them.

"Outside Prussia no State Central Co-operative Bank has been established, but in all the larger States the Central banks are in receipt of State advances or credit to assist them when the monetary demands of the local societies are in excess of the deposits of the latter and of other available capital.

"It can hardly be anticipated that co-operative credit societies will increase at first with great rapidity in England, but English farmers are not alone in being highly conservative and distrustful of fresh projects; in Germany the success of the movement was largely the result of the intensive propaganda carried on continuously from many sides as well as of the effective assistance of the State. The same persistent and continuous propaganda work will be required in England; and progress will probably be slow as in Germany. There are now nearly 17,000 rural credit societies in that country; but twelve years after (1874) the first Raiffeisen bank was established there were only about one hundred of that type in existence, and in 1890—nearly forty years after—their total number was 1,729."

APPENDIX VIII.

EXTRACT FROM A REPORT TO THE AGRICULTURAL ORGANISATION SOCIETY BY MR. JOHN ROSS. (See para. 217.)

HOW CAPITAL IS OBTAINED—THE BANKS.

"Coming now to the ways in which capital or credit are obtained, I take first the banks.

"Throughout the country the condemnation of the attitude of the banks towards agriculture is almost universal. The general grounds of complaint are the indifference of the banks to the interests and the needs of agriculture; their unsympathetic treatment of individual cases; a tendency to deal with agricultural loans on a basis which, while possibly suitable for trade conditions, takes no account of the seasonal and other peculiarities of agriculture; and the unfavourable or expensive terms required by them. This state of things is most commonly attributed to the disappearance of the old country banker and his absorption by the Joint Stock Banks, who have substituted local agents

who in effect have only very limited discretion in regard to advances without reference to the head office in London, and whilst styled 'managers' are in effect little more than bank officials. Criticism is also in many cases directed against the fitness of these men for their position from an agricultural point of view, particularly in their lack of the necessary intimate local knowledge, and even to lack of knowledge of agricultural matters. This is by no means to say that these men are incompetent business men according to the prevailing banking criteria, but only that a man trained in the commercial business of a London head office or a large branch in a manufacturing town is, no matter how able, almost necessarily devoid of the special aptitudes and knowledge which would help him for an agricultural centre.

What is true of these agents is also broadly true of the banks themselves. Their prepossession is in favour of trading business, or 'high finance,' and the farmers' concerns are in every respect secondary. I have even heard quoted the speech of a prominent banker to the effect that the 'farmer was not wanted' by the banks. In visiting many country towns one cannot fail to be struck with the numerous banking branches, often five or six or more, all with modern, well-equipped offices, and the question naturally arises, from what form of business do they draw the profits which justify their competitive expenditure? By universal consent it is not from the volume of lending. These branches exist primarily as deposit agencies, which collect the local deposits and export them to the manufacturing towns or to London. This was very frankly put to me by one banker who, in answer to my question whether his bank was in the habit of lending to farmers, particularly for land purchase, said: 'Yes, we do, but we prefer to find a private lender. It pays us much better to send our money to the trade centres, where we can turn it over more rapidly and earn more commissions.' No one, of course, will be disposed to blame them for managing their own business to the best advantage, but the fact remains that the system fails to meet the needs of agriculture. It may be that it is not within the power of the banks to do both classes of business satisfactorily without an extension of their organisation which it is outside of their capacity to deal with satisfactorily.

The bankers' opinion of the farmer was on the whole very favourable. Repeatedly I heard it expressed that the farmer is the best class of person to whom a banker can lend from the point of view of safety, and that the percentage of loss incurred through them is extremely low. The bankers' knowledge of the farmer, however, is, I think, limited pretty closely to the larger man. No doubt they do in some cases deal with the smaller man, and lend to as low an amount as £5, but I do not judge that these cases are very common, although they may be on the increase. The smaller man are undoubtedly learning the use of banks, and many, who until recently in some districts made all their payments in cash and did not know how to make use of a bank and cheques, are now coming to do so. This in itself is bound to have a certain educative effect on the more ignorant, and it opens a way to helping the farmer to a better knowledge of his financial position. A bank account is only a limited means of testing this, it is true, but as there are many farmers who keep no books at all, this can serve to give them a better idea of their position than they would otherwise have. It is conceivable that a sympathetic banker who had once gained the confidence of these farmers might extend his assistance to the farmer in this matter of book-keeping still further. In any system which may be devised for dealing with credit to farmers, I think this is a matter which should be provided for, as it would not only strengthen the farmer himself by giving him a much better knowledge of the working of his business, but it would equally prove valuable to the credit organisation, as supplying it with intimate knowledge of the farmer's position, and affording it the means of ready assisting him.

SUBTERRANEAN CREDIT.

"But by the great mass of the agricultural population in this country, capital or credit are obtained—for they cannot do without it and do obtain it—not through the banks . . . but in ways less satisfactory, certainly often expensive, and too often positively harmful and even ruinous. The moneylender, the tradesman, the dealer, the auctioneer, the seedsmen, the manure merchant—these are the bankers for the great bulk of agriculture.

"Apart from the question of the unsound borrower and whether means can be found to redeem his position for him, and so to keep him from falling into the hands of the moneylender, there remains the question, how are the attractions of secrecy and simplicity in lending offered by the moneylender to be secured to the borrowers along with reasonable and fair terms? The point is of very great importance, for these two requirements almost more than any others are essential to gaining the confidence of the small borrower and therefore to making it possible to help him on sound lines. I have found this in the credit societies their comparative failure to assist any of the labourers in set down to the absence of these two essentials—particularly the former.

"Long credit then, from tradesmen, auctioneers and seedmen is the component of all the modes of capitalisation. There are even extreme cases of men who have carried the practice to such an extent that they are practically without capital of their own, and deliberately finance themselves by running up bills with all the firms with whom they deal. An inevitable accompaniment of this is the occurrence of bad debts with all the demoralising consequences which follow. From one point of view, however, these tradesmen may be looked upon as benefactors of the agricultural community, and where the terms of their credit have been reasonable this is undoubtedly the case, as they have supplemented the deficiencies of the joint stock banking systems, and have acted as intermediaries generally between the banks and the general population in the distribution of credit. Even where their terms of business have been exacting, or even harmful, they have performed a function which the banks have failed to assume. Necessarily this has arisen because, as one of the very conditions of their business, they acquire a knowledge of their customers far more intimate than is possible for the banks, and are thus able to deal with the granting of credit where the banks have neither the information nor the means for doing so. Not that I regard the dispensing of credit, as it has been worked and is worked by these men, as in any sense satisfactory. It is far removed from that, but they have performed the function, and I believe that in their experience and in many of their methods we can find an invaluable guide to a sound solution of the problem. It must always be kept in mind that the fundamental objective and use of all credit is to facilitate the exchange of goods and services, and that its distribution can scarcely too closely coincide with that exchange, since its repayment depends on the results.

"The failure of the joint stock banks to meet the needs of all classes is mainly due, then, to their too great dissociation from this practical business of exchange. They have left the regulation of this to merchants and traders, amongst whom quite naturally and necessarily systems of credit totally unregulated and often undesirable, have grown up.

"In the co-operative trading associations, however, we have already in existence the actual concrete business for which a regulated credit system may be devised and to which it can be fitted.

"The principal objection to the tradesman's long credit is that it too often goes hand-in-hand with a claim upon the disposal of the borrower's produce. There do exist instances of reputable firms giving long credit who make no direct charge for this, merely fixing their prices on a basis to correspond, or a direct interest charge may be made, no attempt of any sort being made to obtain any further advantage from the concession of credit. Undesirable features of tradesman's credit, however, which are to be found pretty widely, are: (a) high prices with poor quality of goods . . .

Where the farmer is already indebted he is helpless to protect against any of these practices, knowing

that his protest will be met with an instant demand for payment of what is owing. The worst feature of this kind of credit, however, is (c) where it is granted in consideration that the farmer shall sell his produce or his crop to the tradesman—seedman or other. Such transactions are not necessarily undesirable, but open the way to abuse in their present unregulated condition. The price at which produce, &c., is taken in exchange is often fixed entirely by the tradesman to his own interest, and if the farmer dares to protest, which he is as a rule afraid to do, he is promptly called upon to pay his debt. In theory the interest on the advance is supposed to be included in the price charged for the seeds and fertilisers, but apart from interest the price is frequently in excess of market rate. The price given for the produce is lower than market rate, ostensibly on account of the supposed advantage to the farmer in finding him a market for his crop in advance. In reality he has no choice of market, and the reduction of price is actually a second interest charge for the original advance. He thus pays in three ways for the advance . . . Men in his position are 'tied,' and it is difficult to say whether these conditions of business or the operations of the ordinary moneylender are more really harmful to prosperity amongst the agricultural classes.

FORMS OF SECURITY.

"One of the most difficult questions to be dealt with in devising any system of credit, as also one of the most vital, is the question of security.

"The various ways in which this is dealt with in practice may be classed under three heads:—

1. Documentary security assigning material assets.
2. Personal security backed by guarantees by third parties.
3. Character security.

"I have found all three methods in use with the joint stock banks, with, if anything, a preference for the second, although in some cases personal knowledge of the borrower and reliance on his general standing and character are accepted as sufficient. Thus, however, as I have already pointed out, is within the somewhat narrow limits of the larger and more prosperous, and so better-known, farmers, who from the very fact of their greater prominence in a district can be more easily supervised and known about.

"One of the difficulties connected with advances to farmers is the landlord's lien for rent. The existence of this preferential right to distrain for rent is often spoken of as a great hindrance to the advance of money by bankers on farm stock. Without entering into the question of the possibility of the removal of this right from the landlord, I am disposed to believe that the difficulty can be largely got over if, in dealing with the farmer over such advances, attention is directed less to obtaining specific security of the kind in question, and rather to his financial position as a whole, his standing, his methods and his character. This involves a close and sympathetic handling of his case which would be in marked contrast to the attitude now prevalent of basing security on a perfect legal claim rather than on the inherent soundness of the borrower and his business. Here again it is largely for the farmer to see to it that he presents the security he has to offer in a marketable form, as, for instance, by keeping proper books and accounts which will readily show how he stands. The process is analogous to that of the grading and standardising of his produce with a view to obtaining better prices, or the pecking of it in a way which will take advantage of the most favourable railway rates. These are things which must be undertaken by himself and cannot be performed for him by his customers or the railway company. Similarly, he must organise his security and present it in such a form as to command the best terms the banks can offer, and he must not expect the banks to do this for him.

"Coming next to the terms and security for credit given by tradesmen and others. I have already referred to the undesirable and often ruinous terms which are imposed, and which are often the more dangerous because their real effect is skillfully concealed, whilst the seeming benefits are emphasised. Withal, however, it cannot be overlooked that a system which is so widespread and which attracts and serves such a large proportion of the agricultural classes, must have in it some element of fitness, and that if the unsatisfactory characteristics can be eliminated there may be useful lessons to be learned and applied.

"Now the principal features of tradesmen's credit are that it is granted by the advance, not of money, but of goods of one kind or another for a longer or shorter period, and in the vast majority of cases without written security or documentary formalities of any sort. The tradesman 'sells' his goods to the purchaser on terms as to payment, or at such a price as allows for interest up to the date of settlement. The extra risks which he runs through absence of formal security when this would be required in the case of a cash advance, and also the difficulties attendant on realisation in the event of legal proceedings becoming necessary, are also presumably taken account of in the price.

"And thus we find at one end of the scale the rigid banker relying too strictly on legal and material security, and at the other the tradesman relying on a high or even extortionate insurance rate. The resulting exclusion of persons to whom credit may be given is thus determined at both extremes primarily by considerations which are entirely apart from those of the character of the individual borrower or the purpose and quality of his work. In both cases the dominating aim is profit, independent of any consideration as to the results of the credit given. It is difficult to say which of the two extremes in the handling of credit may prove to be the more socially harmful in the long run.

"But alongside of the undesirable and harmful forms of tradesmen's credit, there is an immense amount of credit granted by tradesmen in the ordinary course of business which is charged for in quite a regular way. The vast bulk of this is granted without anything whatever in the nature of security such as a banker would require for an advance of cash to a similar amount. Wherein does the difference lie? We may naturally ask, if the tradesman can do it, why not the banker? Whatever the cause, the fact of the absence of formality and that it can be dispensed with so largely is, it seems to me, the vital point of interest, and offers the clue to a more easily workable credit system, viz., that by making advances in tangible form, i.e., of the necessary requirements for which credit is asked, and through the co-operative trading societies, the real needs of borrowers of this type can be met with far more effectiveness and much more widely. My constant experience in all parts of the country was that men have no objection whatsoever to becoming borrowers of goods on credit, but have the most decided aversion to borrowing from banks, even if the charge for the banker's credit is less than the charge for the tradesman's credit. This feeling is not that of men who are undesirable and so think the one method of obtaining credit easier for them than the other, but of quite honest, responsible men."

APPENDIX IX.

EXTRACT FROM THE INTRODUCTION OF PART I. OF THE FINAL REPORT OF THE DEPARTMENTAL COMMITTEE ON THE SETTLEMENT AND EMPLOYMENT ON THE LAND OF DISCHARGED SAILORS AND SOLDIERS. (*See para. 229.*)

The following paragraphs are extracted from Part I. of the Final Report of the Departmental Committee on Land Settlement for Sailors and Soldiers [Cd. 8132], 1916:—

SETTLEMENT BY COUNTY COUNCILS.

103. We have recommended above that ex-Service men possessing the necessary experience and capital who want accommodation holdings to be worked in conjunction with some other business or who are not prepared to move to the State colonies should be provided for by the county councils, and it is necessary to consider whether the powers of county councils under the Small Holdings Act are adequate for the purpose.

104. Much depends on the extent of the demand, which must be a matter of speculation, but in view of the numerous applications for smallholdings which remained unsatisfied in 1914, and seeing that the purchase of land under the Act has been suspended since the war began, it is certain that there will be considerable arrears to make up as soon as the War is over. Large numbers of the agricultural classes, including many farmers' sons, have joined the forces, and it is probable that many who were formerly agricultural labourers will swell the ranks of the applicants for county council small holdings when they return. In view of the higher standard of living to which their families have become accustomed owing to the scale of separation allowances, and in view of their own experience in the Army, it is probable that they will be reluctant to return to the work of an agricultural labourer at the rate of wages and under the conditions which obtained prior to the War. It is true that wages have risen substantially in the last two years, but in many parts of the country they are still below the amounts which are being paid as separation allowances to the wives and families of many labourers who have enlisted.

105. We think, therefore, that county councils must expect a largely increased demand for small holdings when the War is over, quite apart from the applicants who will be provided for in the State colonies. It has hitherto been the experience of councils that very few of their applicants will move from their own villages or districts, and that the majority of them are not in a position to take self-supporting holdings in the first instance. This experience is likely to be repeated in the case of many applicants who are ex-Service men. They will wish to settle in the neighbourhood from which they came and to which they are accustomed, and, if so, they will probably not be prepared to go to the State colonies.

106. Assuming, therefore, that there will be an increased demand, we think that steps must be taken to see that it will be satisfied with reasonable expedition. The Small Holdings Act contains adequate powers for the acquisition of land, if they are exercised, but, though over 200,000 acres have been acquired under the Act, it has taken seven years to do it, and the progress made has varied very much in different counties. There are 80 county councils in England, and six of them are responsible for more than one-third of the total area acquired under the Act. There is now no hostility to the Act on the part of most councils, but many of them do not administer it with much enthusiasm, and they have been too much disposed to consider only the particular demands of the applicants on their books and to acquire isolated holdings for them, rather than to take the holder line of purchasing large estates as they come into the market and forming colonies to which tenants would be attracted. Where councils have done this judiciously they have found plenty of good tenants among men who will not apply until they see land in sight.

107. If the views we have stated above prove correct, it becomes most important to remove any obstacles in the way of county councils providing small holdings for ex-Service men, as well as for other unsatisfied applicants not belonging to the Services, on a more liberal scale and with less delay than hitherto. It will be necessary for the Treasury to remove its veto on the Public Works Loans Commissioners making advances for this purpose, as until this is done no county council will agree to purchase land on a large scale, even with the consent of the Board of Agriculture. As soon as the Treasury has consented to the principle of once more issuing loans, we think that a circular letter should be addressed by the President of the Board of Agriculture to each county council, pressing the subject on their immediate attention, and urging them to make early preparations for the settling of local applicants in groups rather than individually, on the lines we have suggested for the State Colonies. We anticipate that most of the councils will take prompt action if appealed to on patriotic grounds to help those men who have voluntarily fought for their country, and we prefer to rely on their willingness to do this rather than on the provisions of the Small Holdings Act for dealing with councils in default.

108. The reluctance that many councils have hitherto shown to purchase land on a large scale is largely due to their apprehension that losses will be incurred which will fall on the ratepayers, and to their belief that they will not be able to obtain any adequate contribution towards such losses from the Exchequer.

109. Under section 6, sub-section (4), of the Small Holdings Act, the Board of Agriculture and Fisheries may with the consent of the Treasury pay out of the Small Holdings Account the whole or any part of a loss incurred in carrying out a scheme under the Act, and an undertaking was given by the Government during the passage of the Bill that one-half of any irrecoverable losses incurred by county councils in carrying out schemes would be paid out of public funds. The councils complain, however, that the benefit of this provision has been largely minimised by the regulations under which it is administered. The effect of these regulations is that councils cannot obtain any contribution towards a loss on a particular scheme, unless there has been a loss on their whole small holdings undertaking. On the other hand, section 7, sub-section (3), of the Act makes it necessary for each scheme to be self-supporting and obliges them to keep separate accounts for each scheme.

110. It would very much simplify and facilitate the working of the Act if the whole of the procedure of schemes were swept away and the Board and the county councils became partners in the whole business of small holdings administration. If this were done it would be necessary to enact that the acquisition and sub-division of lands by councils should be subject to the approval of the Board, that the accounts of the council should be kept as of one concern, and that at the end of each year the profit or loss on the year should be ascertained. If there was a loss one-half would be paid by the Board and the other half by the council. At present the Board can only pay half the loss on a scheme, whereas many of the charges which fall on the rates are caused by general administrative expenses not attributable to any particular scheme and towards which the Board cannot contribute.

111. If the procedure were altered in this way a fruitful cause of dissatisfaction would be removed, and we believe that it would act as a substantial inducement to county councils to acquire sufficient land to satisfy any genuine demand for small holdings. We recommend, therefore, that the Act should be amended accordingly.

112. We think, also, that it would be an additional inducement to county councils to establish small holdings colonies rather than isolated holdings if the Board of Agriculture and Fisheries were authorised to contribute towards the salary of a resident instructor, and towards the initial capital cost of providing a central depot, store, jam factory, creamery or other similar organisation, for any colony created by a county council, if the scheme for its sub-division and equipment was approved by the Board. There are precedents for assistance of the kind in the Farm Institute scheme of the Board under which the Board contribute towards the salaries and expenses of the agricultural organisers and instructors of the county councils and towards the building of the institutes. If the Government agree to our recommendations that military hutments should be handed over to the Board for the settlement of ex-Service men on the land, we suggest that the Board might place some of them at the disposal of any councils who may establish colonies for ex-Service men.

113. These hutments could be used not only for cottages and farm buildings, but also for a central depot, store, jam factory, &c. This would encourage councils to prepare a scheme of land settlement on the same lines as the State colonies which we have recommended, and which we hope may serve as models for county council settlements in the future.

114. There are certain other directions in which experience has shown that the Act might be strengthened with advantage, and we recommend that the following amendments should be made:—

- (1) Councils should be given the same powers to improve and manage their property as are possessed by the trustees of a settled estate.

The present powers contained in section 8 of the Act are very insufficient. They are taken from the Small Holdings Act, 1892, which contemplated prompt sale to the small holders, and they are quite inadequate for land most of which is let to tenants. For instance, councils cannot spend money in planting land with fruit trees or bushes or in supplying grass seed for laying down pasture, and they cannot erect any buildings or carry out improvements except on the occasion of a sale or letting. Nor can they spend any money for the common advantage of the tenants of their estates, e.g., by purchasing and hiring out farm implements. It is impossible for councils to provide one of their tenants with additional buildings or carry out any improvements on his holding without terminating his tenancy and entering into a fresh agreement.

- (2) The maximum term of 50 years for loans for buildings on small holdings should be extended to 80 years, which is the term granted under the Housing Acts.
- (3) Buildings erected under the Small Holdings Act with the approval of the Board of Agriculture and Fisheries should be exempted from local byelaws.

This will be particularly necessary if councils are able to obtain the use of military hutments for the equipment of small holdings.

- (4) Provision should be made to deal with the grievance of the tenants of small holdings that they have to pay in their rents for the purchase of the land.
- (5) Section 41 (3) of the Act should be repealed.*

This section was intended to protect the existing small holdings from compulsory acquisition, but it has been found that it also exempts holdings below 50 acres which are occupied by farmers holding other farms in addition, and it has enabled some landlords to let a large farm in separate holdings of less than 50 acres to a number of bogus tenants, while the whole remains in fact in one occupation.

* We think that this restriction should be amended rather than repealed. Existing *bona fide* smallholdings should certainly be protected from compulsory acquisition.

- (6) The powers of county councils to acquire land for the purpose of providing small holdings should be extended to the purchase or hiring of land for the purpose of leasing it to a parish council for sub-letting in allotments.

This would facilitate the provision of allotments and would be advantageous to parish councils both financially and administratively. The borrowing powers of parish councils under the Act as it stands are less favourable than those of county councils, and county councils are in a better position to negotiate for the acquisition of land than most parish councils, who have no expert staff.

APPENDIX X.

EXTRACT FROM THE REPORT OF LORD HAVERSHAM'S COMMITTEE GIVING AN EXAMPLE, BY SIR H. TRUSTRAM EVE, K.B.E., OF A REDUCIBLE MORTGAGE, &c. (See para 235.)

(Headed in by Sir H. Trustram Eve and referred to in the chapter of the Report entitled "Small Holdings.")

"A Farm: Acreage, 100 acres. Present rent, £100. Annual value or market rent to-day, £120. Tithe, £10. Land tax, £2. Repairs, estimated to cost per annum, £8.

"CALCULATION FOR PURCHASE PRICE.

	£	s.	d.	£	s.	d.
"Annual value	120	0	0
Less tithe	10	0	0
"Land tax	2	0	0
"Repairs	8	0	0
				20	0	0
Net annual value	100	0	0
Years' purchase	25		
Market value	£2,500	0	0

"CALCULATION FOR LOAN ON ANNUITY SYSTEM.

	£	s.	d.
"£2,500. Interest at $3\frac{1}{2}$ per cent.	87 10 0
Sinking fund spread over 60 years, at $\frac{1}{2}$ per cent.	12 10 0
Annual payment on annuity system	£100 0 0

"POSITION OF TENANT PURCHASER.

	£	s.	d.
"Annual payment to State	100 0 0
Outgoings and repairs	20 0 0
Total payments per annum (same as market rent)	£120 0 0

"In this case I have assumed that the present rent is $16\frac{2}{3}$ per cent. below the market rent of the day, and I have also assumed that the interest would be $3\frac{1}{2}$ per cent. instead of $3\frac{1}{4}$ per cent., as in Sir Edward Holden's scheme."

POSITION OF THE STATE AS TO RISK OF LOSS.

The purchasing occupier is required to pay £12 10s. 0d. per annum for 60 years, and, if the State regularly receives this £12 10s. 0d. per annum, it will regain the full amount lent, namely £2,500 without loss. It matters not to the State whether the actual value of the farm is more than £2,500 or less than £2,500 during the continuance of the loan. What is of extreme importance is that the State should regularly receive £12 10s. 0d. per annum.

It will be seen, therefore, that the total risk to the State is the capacity of a farm of 100 acres to produce out of profits £12 10s. 0d. per annum. If we assume the annual profits are at least £120 per annum, it seems clear that the required payment is a shade over 10 per cent. of the profits.

The State also requires that the farm premises should be kept in repair, and the sum of £8 has already been allowed in respect of this liability. It is necessary also that the Tithe and Land Tax should be paid, and these have been allowed for in arriving at the purchase price of £2,500. If those three items had not been dealt with, the purchase price of the farm would have been £3,000 instead of £2,500, and the annual payment in respect of sinking

* The basis of this example remains constant, whatever the area, for property worth 25 years' purchase. If this farm had been worth 20 years' purchase instead of 25 years, the annual payment would be the same, but the loan would be repaid in 35 years instead of 60 years, as the Sinking Fund would then be 11 per cent. per annum instead of $\frac{1}{2}$ per cent.

fund and interest would have been £120 instead of £100. It matters not to the purchaser whether he pays the £120 in one sum or in four sums.

The State requires from the purchaser the annual payment of £87 10s. 0d. by way of interest. But, from the actuarial point of view, the exact date on which this interest is received does not matter, because it does not affect the question of regaining the amount of capital which has been lent, and interest, when received by the State, is not required for re-investment. In individual instances there may be ultimate loss of interest. If this occurs, it must be borne in mind that the scheme is based on $3\frac{1}{2}$ per cent., which allows $\frac{1}{4}$ per cent. or more on all money lent, to cover any loss of interest that may occur. From the above remarks I argue that an ordinary commercial mortgage, which is not reducible, cannot be really compared with a reducible mortgage such as is shown in this example. It follows that the suggestion of 20 per cent. deposit in part payment is unnecessary.

POWER OF DISTRRAINT.

The position of the occupying purchaser will be in one respect different from his position when occupying under a landlord. He will not be liable to distrain for rent, and consequently his crops and chattels which were subject to this liability are now free from it. If it is thought that the State is running any risk (1) of not recovering the sinking fund of £12 10s. 0d. per annum, or (2) of not recovering the interest of £87 10s. 0d. per annum, I would suggest that the State should reserve the power in the mortgage deed to distrain on the premises for either or both during the first few years of the loan. With this added security it seems to me that the State would be secure beyond all reasonable question. This right of distrain might be limited to those cases where the purchaser cannot make a part payment of 20 per cent. or more without depleting his farm capital or borrowing from his friends.

INSTALLMENT SYSTEM.

There is an alternative method of repayment of the loan which might be used if it is thought that the annuity system of repayment which up to this point has been used together with the partial right of distrain, is not sufficiently safe. This alternative method is the Instalment System.

Under this system the repayment of the loan is made by equal annual payments arrived at by dividing the number of years over which the loan is spread into the capital sum, and adding the interest on the amount of loan outstanding at the beginning of each year.

The effect of the Instalment System is that the total payments of interest and sinking fund are very much higher in the earlier years and decrease annually, while under the Annuity System the annual payments remain constant throughout the period of the loan.

From a study of the table referred to in the preceding paragraphs, it will be seen that if the interest on the loan is spread over 60 years, under the Annuity System, the State would receive, in the first year, the sum of £100 (the same as the net market rent), while, under the Instalment System, the State would receive £129 3s. 4d. It will also be seen that, after the twelfth year under the Instalment System, the State will have received £500 in respect of repayment of principal, which is equal to 20 per cent. referred to in Sir Edward Holden's scheme, and it follows that after six years the State would have received a sum equal to 10 per cent. of the purchase price.

I suggest that it would be fair to offer to a purchasing tenant the option of repaying, either under the Annuity System with no deposit, coupled with the liability to distrain for ten years, or under the Instalment System with no deposit, and no liability to distrain.

Period—Years.	Instalment System.		Annuity System.	
	Amount.	Percentage.	Amount.	Percentage.
5	£ 206	5.35	£ 125	5.00
10	416	16.66	250	10.00
12	500	20.00	300	12.00
14	568	22.72	350	14.00
16	630	25.20	400	16.00
20	833	33.33	500	20.00

I lay great stress on the point, that the risk of the State depends upon one question only, and that is this: can the purchasing tenant, over an average of years, make sufficient profit, as in the case that has been taken, to enable him to pay the State £100 a year in respect of 100 acres of land, which are worth, apart from the outgoings, £30 per acre? After long experience it appears to me that the risk is absolutely nil.

It will be admitted that, if the occupying purchaser failed to farm the land properly, and, in fact, let the whole place go to rack and ruin, the State would have to realise the farm and would suffer some capital loss, especially if the realization occurred in the first few years of the transaction. But, in making this admission, my experience teaches me that these cases will be extremely rare, and the risk would be covered many times over by the margin of $\frac{1}{4}$ per cent. or more between the $3\frac{1}{2}$ per cent. upon which the scheme is based and the interest which the State would have made on the money, if it had not been lent to the purchaser, which is either $3\frac{1}{2}$ per cent. if the sum were borrowed, or 3 per cent. under the Insurance Act.

SCHEME OF OCCUPYING OWNERSHIP BY MEANS OF REDUCIBLE MORTGAGE ARRANGED BY THE STATE

Objects.—To facilitate the purchase of land on a voluntary basis by the sitting tenant, whether the size of the occupation be large or small.

Conditions.

(1) The Scheme to be confined to:—

(a) Sitting tenants.

(b) The son of a sitting tenant on nomination of the latter.

(2) The amount of the purchase money to be voluntarily agreed upon between the owner and sitting tenant.

(3) The State to advance the whole of the purchase money, which will be paid to the owner.

(4) The State may receive part payment of any amount, at the discretion of the tenant.

(5) The mortgage to be repaid over a period of years, and the interest to be $3\frac{1}{2}$ per cent.

(6) The annual sinking fund to repay the capital to be based on the $3\frac{1}{2}$ per cent. tables, and shall vary in direct proportion to the number of years' purchase which fairly applies to the net annual value of the holding.

(7) No advance to be made by the State in respect of any proposed sale and purchase unless the Board of Agriculture certifies that the proposed purchase money is not in excess of the market value of the holding.

TABLE SHOWING RELATION BETWEEN YEARS' PURCHASE OF PROPERTY AND NUMBER OF YEARS FOR REPAYMENT OF LOAN BASED ON $3\frac{1}{2}$ PER CENT. ANNUITY TABLES.

Purchase Price.	Approximate ANNUAL Value.	Years' Purchase.	Interest at $3\frac{1}{2}$ per cent.	Sinking Fund.	Total Annual Payments.	Per cent.	Years of Repayment.
£	£		£	£	£		
1,000	50	20	85	15	50	5-00	85
1,000	48	21	85	18	48	4-80	88
1,000	46	22	85	21	46	4-60	92
1,000	44	23	85	24	44	4-40	96
1,000	42	24	85	27	42	4-20	100
1,000	40	25	85	30	40	4-00	104
1,000	38	26	85	33	38	3-80	108
1,000	37	27	85	36	37	3-70	112

From the above table it will be seen that unless the land is purchased at about 25 years' purchase on the modern annual value, the period of repayment is over 60 years.

APPENDIX XI.

VILLAGE RECONSTRUCTION, VILLAGE INDUSTRIES, AND SOCIAL LIFE. (See para. 245.)

1. It was suggested to us by Mr. E. E. Prothero, M.P., Sir H. Trustram Eve and by Lord Milner that the time had come for a re-arrangement of some of our villages to meet present needs, a form of re-enclosure in fact, which would have as its primary object an amelioration of the circumstances of the cottager and labourer. The following is an outline of the plan submitted to us:—

If a wish for reconstruction exists in any village, application should be made to the Board of Agriculture, either by the Parish Council on the instruction of a Parish Meeting, or by the Agricultural Committee of the County on the requisition of a certain proportion of the inhabitants of the parish. The Board of Agriculture should appoint a Valuer to make a thorough report on the parish, showing how it might be improved on business lines in respect of small occupying ownerships, gardens, allotments, smallholdings, cottages, cow commons, horse commons and recreation grounds. The instructions to the Valuer should be such as to leave him complete latitude in making proposals with regard to the land in the vicinity of the village or its dependent hamlets, but should make it clear that it was no part of his duty to deal with farms in the distant parts of the parish. The Valuer's Report should be sent to the Board of Agriculture, who should communicate it to the Parish Council or Agricultural Committee, and it should be open to the inspection of all inhabitants and other persons interested. The Board of Agriculture should, through an Inspector, hold a local enquiry to deal with objections to the Valuer's Report, and the Inspector should then draw up a final scheme for the approval of the Board, setting forth in detail the changes to be effected, and scheduling the land to be acquired, the value of which would, in case of dispute, have to be determined by the usual method, where land is compulsorily taken for public purposes. The Agricultural Committee of the County should be responsible for carrying out the scheme, and the Parish Council for its subsequent administration, subject to the supervision of the Committee. An alternative plan would be to allow the creation of a Public Utility Society to carry out the scheme.

The money required for the acquisition of the necessary land, and its adaptation to its new purposes, should be advanced out of public funds, and repaid in instalments by the Parish Council, which in its turn should be recompensed by the parties directly benefited in proportion to their several interests. On the other hand, the expenses of the valuation, the local enquiry and other preliminaries might reasonably be defrayed by the Board of Agriculture out of a Parliamentary grant such as was made under the Small Holdings Act, 1907.

2. We are of opinion that these proposals which are applicable chiefly to England and Wales, are well worthy of careful consideration, with a view to action on the lines recommended. We approve the objects of the proposed improvement, the suggestion that the Parish Council, or the Agricultural Committee of the County on the requisition of a certain number of householders, should have the power of initiation, that the enquiry should be held and the scheme be framed by the Board of Agriculture, that the responsibility for carrying out the scheme should rest with the Agricultural Committee, and that the responsibility for administering it when completed should be placed upon the Parish Council. We recommend, however, that the approval of the Agricultural Committee to the details of the scheme should be a condition of its final adoption. The possibility of such action would do much to stimulate a feeling of corporate existence and responsibility, and it might, we believe, be found to possess a further advantage. Combination for the purpose of conducting the business of reconstruction would appear likely to give rise to a community of interest, and a study of the requirements of others, which should facilitate co-operative effort and the organisation of credit. We recognise, however, that in many instances difficulty may be experienced in combating the inertia which has been produced under present conditions, and that some stimulus may be needed. This, we are of opinion, might be effected through the co-operation of the persons responsible for carrying out the survey recommended in Part I. of our Report. In the course of their survey they would have opportunities of seeing where improvement was most needed, and should be instructed to report such cases to the Board of Agriculture which should refer their reports to the Parish Councils and to the Agricultural Committees concerned.

3. As suggested in the outline of the scheme public funds should be made available for providing the money necessary for the acquisition of the necessary land and for its equipment, repayment being made by annual instalments of principal and interest, covering a period of 80 years in respect of land, and 60 years in respect of equipment. As the cost of the scheme must fall upon the Parish, it would probably be advisable to limit the annual cost of it to an expenditure representing the return of a rate of 6d. in the £; but, except as regards public improvements such as the erection of village clubs or social institutes, schemes should become self-supporting as the lands or houses included therein were let or re-sold to occupiers. In this respect the precedent of the Small Holdings and Allotment Act, 1908, should be strictly followed. This measure lays down that County Councils must not acquire land for smallholdings except at such a price as, in the opinion of the Council, will enable all expenses incurred in relation to the land to be recouped out of the proceeds of sales or from rent, which must be fixed at such reasonable amount as will guard the Council against loss. The same principle should be followed in passing a scheme for the reconstruction of a village. As suggested, however, the preliminary expenses might be borne by the public Exchequer.

4. An important object being to improve the status of the agricultural labourer, we think that he should be given the option of either tenancy or purchase. Lord Milner pointed out in his evidence that experience abroad has shown that, although small owners often have a hard economic struggle, the fact of ownership has produced among them a corporate life which has developed their intelligence and taught them to manage their own affairs to a much greater degree than is usual with a similar class in this country. In some cases doubtless tenancy would be preferred, but we are of opinion that provision should also be made for those who prefer the independence of ownership. When the latter is chosen repayment on the instalment system, as described in the paragraphs of this Report about Ownership and Tenancy, but within rather shorter periods, say, sixty years for land and forty in other cases, should be permitted, and in cases of tenancy the provision, so often criticised under the Small Holdings Act, by which capital payments were included in the tenants' rents, should be avoided.

5. We are of opinion that if occupying ownership is to have a fair prospect of success those who decide in its favour should not be required to tie up working capital by being called upon to pay down a capital sum in respect of the purchase money. It may be argued that without such payment there would be no safeguard against loss, but it must be remembered that the character and circumstances of the purchaser would be well known to those responsible for the management of the scheme. Each application would be carefully scrutinised and would not be accepted, unless these responsible were satisfied that the applicant was a person likely to be able to fulfil his obligations. The risk of failure in the early days of his occupation would therefore seem to be small, while with each year that passed the reserve fund provided by his repayments of principal would be mounting up as a protection against loss.

6. A further question to be considered in the case of sales is whether any restriction as to resale or sub-division should be imposed on purchasers. It has been urged that there should be no restriction, except that, in case of land, it should only be used for agricultural purposes. We cannot, however, accept this view. Public funds will have been employed for a special purpose, viz., to enable an individual to become an occupying owner and, until his payments have been completed and he has become actual owner, we are of opinion that he should be prohibited from sub-dividing his holding without the consent of the Council, and that in the event of his becoming non-resident the authority responsible for the scheme should have the option of repurchase on repayment of the paid-up portion of the loan, less such sum as may be necessary to put the premises in a proper state of repair, but plus compensation for any improvements which may have been effected. In this connection it is interesting to note that the rules of the Westdale Freehold Land Co-operative Society and of the Guiseley Allotments Association, both affiliated to the Agricultural Organisation Society, impose restrictions on building—e.g., "each complete house must have attached not less than 360 yards of land," and forbid the

use of the buildings for other than agricultural purposes, and that these restrictions continue after the payments are completed, and that the obligation to observe them is imposed in the deed of conveyance. We think that analogous conditions should be inserted in any deed of conveyance issued as the result of a scheme for the reconstruction of a village.

7. The Agricultural Committee should be given power to agree with the parties concerned as to the purchase money to be paid in respect of their several interests in the land included in the scheme, subject to the approval of the Board of Agriculture that the prices were reasonable and such as would be likely to permit the land or cottages to be let or resold at rents or annual instalments which would prevent loss from being incurred. It would be necessary, however, to prevent the interests of individual owners from stopping reconstruction schemes, and compulsory powers on the lines of those contained in the Small Holdings and Allotment Act, 1908, or such as may presently be enacted by Parliament for acquiring land needed for public purposes should be taken. The Public Authority should also be enabled to withdraw in the event of the price appearing likely to be such as would militate against the success of the scheme.

8. In the event of Glebe, Charity, or University or College lands being acquired, the Ecclesiastical Commissioners, the Charity Commissioners, and the Board of Agriculture, respectively, should be empowered to sanction purchase by the payment of principal and interest direct to these bodies, instead of payment by a capital sum obtained from public funds. Similar arrangements should be permitted with private owners should they so agree.

9. In the paragraphs of this Report and Appendix XII. on Tithe Redemption we indicate a method by which we think land may be made available for village reconstruction. To exchange corners of land and fields in and near a village for the tithe on other land may become an acceptable business proposition to a landowner. But for this particular purpose the land exchanged for tithe must be in or quite close to a village. Public Authorities and Public Utility Societies are likely to play a very important part in providing the new cottages which will be required after the war, and usually such cottages will be built in the villages. The cottages existing on the farms should be reserved in the first instance for the men who must live near the farm buildings, the carters, cowmen and stockmen. The other labourers can quite easily go to and fro between the farm and village on their bicycles.

10. We wish also to express our hope that, when public money is used to facilitate cottage building, care will be taken to see that the countryside is not disfigured by hideous erections. There is no reason why, because a cottage is well and economically built and comfortably planned, it should also be ugly.

Village Industries and Social Life.

11. It would be a bitter misrepresentation of the truth if the impression prevailed in the industrial population, which has no personal experience of country life, that nobody in the country parishes of Great Britain has any social sense and that there is no corporate life there. On the contrary, there are great numbers of persons of all classes in a multitude of country parishes who devote themselves in great happiness to the social service of their neighbours in one form or another, and there is a corporate life in every village. The proper perspective in which to put the matter is that there is an unnecessary inequality of the development of this social sense and of this corporate life in different parishes, and that to raise the standard of the parish where it is weakest to the standard of the parish where it is strongest will be a powerful influence in rendering country life more attractive to young persons, and so in counteracting their tendency to migrate to the towns.

12. Mr. J. H. Duncan, Honorary Secretary of the Scottish Farm Servants' Union, laid great stress in his evidence on the social results of the system, by which the working staff of the Scottish farms are usually engaged for six months in the case of single and for twelve months in the case of married men, whose contracts all expire at one time in each area. He pointed out that emigration has in recent years made the most serious drain upon the supply of farm servants, and that not from the lowest paid districts only. It is interesting to note that the wages are much higher and the hours of work are much longer in Scotland than in the South of England, and that Mr. Duncan was definitely of opinion that the Scottish problem was rather one of shorter hours and increased leisure and of social conditions generally than of wages. He stated that at the present time the Scottish farm servants are becoming more and more migratory in their habits, with the result that they have practically no place at all in the community, the periodical hiring fairs creating a feeling of unrest and unsettlement amounting to a disintegration of rural society, and Mr. Duncan wishes to see these tendencies counteracted by a great development of the social life of the farm servants. He regards this as the biggest social question which has to be faced in Scotland, but hopes that the joint Committees of Farmers and Farm Servants recently set up (and which will become general under the provisions of the Corn Production Act), will provide the necessary agencies for initiating a movement to deal with the engagement aspect of the problem on sufficiently broad lines. There is clearly a social problem to be solved in the country parishes of Scotland as well as in those of England and Wales.

13. Intermixed with the social problem are the problems of prospects and of continuous employment. Smallholdings have been justly described as rungs of the ladder by which the

agricultural labourer can rise, but they are not the only ones. The wider spread is agricultural education and the more intensive becomes agriculture and forestry, the more openings there will be for the most capable men to become foremen, grieves, bailiffs and stewards, and such posts are very useful rungs indeed of the ladder of advancement. Co-partnership may provide another set of rungs. Mr. E. G. Strutt told us in his evidence that on the farms in Essex, which he manages, the practice has been for some years past to give an annual bonus to each man employed, varying according to the annual profits and ranging from £2 for an ordinary labourer to £20 for a bailiff. An employee can either draw his bonus in cash or leave the whole or part of it in the business, and he can invest any of his savings in the business. The men are guaranteed 4 per cent. per annum on all money so invested, and if the farm makes a profit, they are given the additional dividend represented by that profit whatever it may be. They can withdraw the money whenever they wish to do so. Mr. Strutt said that the scheme is very popular with the men, and that it makes the working of the farms more easy and the men more contented. We think that this experience should become widely known.

14. Formerly subsidiary industries, such as straw plaiting in Hertfordshire and Bedfordshire and lace making in the Midlands, were common in the country districts, and in all the well-wooded counties the utilisation of the underwood gave constant and interesting employment in the winter months. In the stress of competition these old industries have largely disappeared, but some of them can be revived and with better organisation hold their own, and new industries may be introduced. This engraving of industries into the country districts is most important from the point of view of agriculture. Every farm must employ more labour in the summer than in the winter months. Therefore, industries, which will give good winter employment to men and women, who in summer can be employed upon the farms, are very useful adjuncts to a healthy rural system. This has been thoroughly realised and successfully organised in Germany and elsewhere on the continent. It remains for us to do the same. If much grass land is reconverted to arable there will be much more straw produced. What should be done with the surplus straw? There, possibly, may be one opening for a village industry. A great increase of potato farming may provide another in the preparation of dried potatoes for foodstuffs or in the distillation of spirit to be used in the creation of power. The increase of fruit farming will give increased opportunities for the preservation of fruit or the manufacture of jam, and fresh fruit requires baskets, and basketmaking means osier growing. Moreover, a State policy of afforestation should bring with it a great revival of woodland industries. What wisely devised organisation does in these matters is to make them possible for the many instead of only for the enterprising few.

15. We had interesting evidence on this subject from Mr. J. L. Green, Secretary of the Rural League, who spoke about village industries from personal experience but who also desired to encourage the decentralisation of urban industries, as has been done in Germany, by the location by urban manufacturers of branches of their business in rural areas. That this would be a good thing for agriculture as bringing a new market to its door and an increased population for summer work, and for the industrial population as carrying them into more healthy surroundings, and that it would enable both communities better to understand the conditions of each other's livelihood, is obvious. Whether it will be possible from the point of view of the urban industry as a business proposition must depend on the relative costs of production.

16. Since the beginning of the war the Rural League has been engaged in developing village industries with great success. Mr. Green told us that industries suitable to the conditions of village life were the manufacture of fancy leather goods (similar to those formerly received from abroad, and particularly from enemy countries), baskets, and toys, and that a central body with County branches and a secretary in each village was necessary to organise the purchase of raw materials and tools, the provision of designs and models, the solicitation of orders, the despatch of goods, the collection and payment of accounts, and the dissemination of information, and generally to superintend the movement.

17. On behalf of the Rural League, he suggested that the movement projected and started by the League for the encouragement and establishment of village industries, successful as it had been so far, needed for its adequate extension a backing of a financial and organising kind from the State, as in other countries, and that it might very well work in with any future scheme for increasing the population of our rural districts, whilst it could also be linked up with the small-holdings movement as a Small Holdings and Village Industries System.

18. We have also had some valuable information from Mrs. Roland Wilkins in respect of the Women's Institutes recently established by the Agricultural Organisation Society. These Institutes are simply groups of women organised and banded together for purposes of mutual help, the usual unit being the village. As a rule they possess no local habitation in the shape of a building used for their own purposes alone; they may have a rest room in the local market town, but usually their meetings are held in each other's houses, in a room hired for the occasion, or in the village schoolroom. Their functions touch, but are not limited to, agriculture. Their value lies in the fact that by organising village women of every class they provide a machinery which can be turned to account for any social purpose. They are, to-day, helping the War Agricultural Committees in food production, but they might equally well help the local authorities in connection with hygiene, the Treasury in connection with war savings, the County Councils in connection with illiterate instruction. In England Women's Institutes were only started in 1915, in Ireland they were started about seven years ago under the title of the United Irishwomen, but in Canada they have flourished for 25 years.

19. The experience of Canada is very suggestive. There, as we were informed, the Women's Institutes have made the whole difference to agricultural and domestic education. When the instructor comes to a village, where there is a Women's Institute, he is no longer met with coolness or indifference, he finds a receptive audience and an organisation which carries on his work after he has gone away. The Women's Institutes are regarded as an essential link between the instruments and the objects of rural economic instruction and between the different departments of government and the country folk.

20. The movement was started in England and Wales by the Agricultural Organisation Society in 1915. There are now 110 Institutes, with an approximate membership of 5,600, and the movement is rapidly growing. Its initiation was coincident with the outbreak of war; for this reason the popular interest aroused in the increase of food production led to the early activities of the Institutes being mainly directed to the better cultivation of gardens and allotments, the collection of vegetables for camps, and the best methods for the utilisation and conservation of food products. The general results so far show that quite a new interest has been aroused amongst all classes of rural women in matters both of local and of national concern.

21. Those who have tried them in England and Wales believe that we shall have the same experience here as in Canada, and that if, as is anticipated, there is a large increase of smallholdings and settlement schemes after the war, Women's Institutes will play a great part in making the settlers contented and the schemes successful. They are found to be a most effective agency for gradually familiarising people with the idea of co-operation and so for the formation of Co-operative Societies, and they furnish the exact medium through which a new industry can be successfully introduced into a village.

22. We are of opinion that the work started during the war by the Rural League and by the Agricultural Organisation Society should not be allowed to drop but that it should be encouraged and developed. We do not think that it is work which can be best done directly by the State, but, rather that it should be done by some body, wholly divorced from politics, recognised and supported by the State. Such a body is the Agricultural Organisation Society, which we have already recommended for an increased subsidy in connection with its main work of agricultural organisation. The work we are now considering is different from but auxiliary to that work. We recommend that either the Agricultural Organisation Society in the three countries or some analogous body should receive distinct grants for these separate purposes, that the fostering of village industries and the formation of Women's Institutes should be entrusted to them under the supervision and control of the respective Departments of Agriculture, but that the expenditure for this purpose should be kept wholly distinct from that on agricultural organisation.

APPENDIX XII.

TITHE REDEMPTION. (See para. 249.)

1. The method of procedure would be on the following lines. The landowner would receive an application for land for small holdings or village reconstruction from some authorised public authority, or he might take the initiative himself and offer the land. In either case his power to exchange his land for his liability to pay tithe rent charge would depend on his success in coming to a friendly arrangement with the tithe owner. There is no suggestion of compulsion in the scheme. Each transaction would be in the nature of a separate bargain between tithe payer and tithe owner. If the landowner were successful in coming to an arrangement and the public authority were prepared to accept the land proposed to it as suitable for its purpose at the value put upon it, then certain land would be handed over by the tithe payer to the County Council or other public authority for the purpose of its scheme, while other land belonging to the same owner would be freed from tithe of a capital value equal to that of the land handed over to the County Council. If the tithe owner in question were an incumbent, then the County Council would become responsible for the payment to the Governors of Queen Anne's Bounty on behalf of the living of an annual sum representing the return of the principal and interest in an agreed number of years representing a fixed and definite period. The instalments of interest would be paid by the County Council out of the rent received from the land purchased, and the land itself would become vested in the County Council, which would make provision for the sinking fund out of its General Fund.*

* If the smallholder had decided to become owner of the land purchased by the County Council, the charge for sinking fund would fall upon him and not upon the General Fund of the County Council.

2. Mr. S. E. Downing, the Secretary to the Ecclesiastical Commissioners, saw no objection to the proposed arrangement, and agreed that, for the reasons already stated, the present was rather a favourable moment for such a scheme to be launched. He pointed out, however, that the details of the transaction would vary in different cases owing to the difference in value of the tithes to the lay impropriator, the incumbent, and the landowner. For example, the present (1918) value of tithe rent charge commuted at £100 is £109 3s. 11d.; and allowing 5 per cent. for collection, and rates at 5s. in the £ on an assessable value of, say, £75, equal to £18 15s. full rates and £9 7s. 6d. half rates, the value to the lay impropriator (who does not benefit by the Tithe Rent Charge (Rates) Act, 1899) would be:—

	£	s.	d.
Present value of tithe rent charge	109	3	11
	£	s.	d.
Less Cost of Collection	5	9	2½
„ Full Rates	18	15	0
	24	4	2½
Value to the Impropriator	£84	19	8½

(On the other hand the value to the incumbent, who pays half rates only, would be £9 7s. 6d. more, viz., £94 7s. 2½d. The value to the landowner would again be different in that he would be relieved of the full amount of the charge, £109 3s. 11d.

3. The effect of this variation might be to vary the arrangement between the parties in different cases, but we see no reason to think that the solution of the problem should present any insuperable difficulty in the case of reasonable persons. It is, however, clear to us that the present basis of redemption laid down by the Tithe Act, 1860, i.e., twenty-five years' purchase of the commuted value, cannot be retained, if it is desired to induce landowners in any considerable number to redeem their tithe rent charge. At its present value tithe rent charge could only be redeemed on the statutory basis to pay the landowner about 3½ per cent., which compares unfavourably with a return of slightly over 5 per cent. from public funds. About twenty years' purchase in our opinion would in most cases be a fair basis for both parties, but probably the circumstances in different cases will be found to vary too greatly to make any flat rate, laying down a fixed number of years' purchase of either the commuted or the annual value, prove satisfactory, and accordingly we recommend that the consideration in each instance should be the subject of negotiation between the parties, when the tithe owner is an incumbent and not an impropriator, subject to approval by the Governors of Queen Anne's Bounty. We further recommend that when both parties are willing to come within the scheme, but cannot agree upon the value, the settlement should be left to a valuer agreed upon by them, or, in default of agreement, appointed by the Board of Agriculture.

4. Some amendment in existing procedure will be required if a sufficient inducement is to be held out to an incumbent to become a willing party to the bargain proposed. Under the present system the money received for tithe redemption in such a case has to be paid to Queen Anne's Bounty and the incumbent receives from its Governors a fixed income based on the capital sum received on redemption. The amount of income allowed depends, at the discretion of the Governors, on the rate of interest they are able to command and was for many years fixed at 3 per cent., though this has recently been raised to 5 per cent. in view of the rise in the general rate of interest. We are of opinion that the income allowed to the incumbent should be the full return obtained from the investment of the redemption money, less a fixed sum, say ½ per cent., for expenses of collection, &c.

5. We will test the proposed operation by a hypothetical case where money can be invested at 5 per cent. A is a County Council, which in 1918 informs B, a landowner and tithe payer, that it wants 100 acres of land for small holdings in a certain parish X, in which he has property. B, who pays £109 3s. 11d., the present value of £100 commuted tithe rent charge, to C, the rector and tithe owner of an adjoining parish, Y, in which B also has property, thereupon offers C to redeem this payment for 22 years' purchase at par, i.e., for £2,200. C accepts the proposal, and B offers A a farm of 100 acres, let at 22s. an acre, for £2,200 in X parish. A is satisfied with the land and agrees to take it for the sum named.

6. Henceforward A holds the 100 acres in X parish, lets them out to smallholders and out of the rent paid by them pays to Queen Anne's Bounty £110 a year (5 per cent. interest on £2,200), and out of its general fund £11 (½ per cent. sinking fund on £2,200) until the debt is extinguished. Queen Anne's Bounty pays £104 10s. (i.e., 4½ per cent. on £2,200, keeping the other ½ per cent. for expenses and sinking fund) a year to C and his successors in perpetuity. B has parted with 100 acres of land in X parish, but he is henceforward freed from any liability to pay tithe rent charge in Y parish.

7. A has clearly got what it wanted, but how do B and C come financially out of the transaction?

	£	s.	d.	£	s.	d.
B's gain consists in the fact that he has no longer to pay tithe ...				109	3	11
B's loss consists in the fact that he has parted with gross rent ...	110	0	0			
but as the annual outgoings (tithe, land tax, repairs, &c.) in respect of it averaged ...	22	0	0			
the net rent which he received was ...	88	0	0			
and that the rates hitherto paid by the tithe owner will automatically become charged on the land in respect of which the tithe rent charge has been redeemed ...	9	7	6			
				97	7	6
B's immediate gain on the whole transaction is therefore ...				11	16	5
and with a rapidly rising tithe he may consider the bargain a prudent one to make.						
C will have gained a fixed income of ...				104	10	0
and will have lost a gross tithe rent charge ...	109	3	11			
from which there were deducted for cost of collection and rates ...	14	16	8½			
				94	7	2½
C's immediate gain on the whole transaction is therefore ...				£10	2	9½

It is true that C. will get no further advantage from the rise of tithe, but he will benefit by being unaffected either by any fall of tithe or by any rise of rates, and his income will come to him automatically and without any possibility of worry or trouble on his part. The bargain is therefore quite a prudent and satisfactory one for C. It is worth pointing out that, as the lay impropriator at present only receives £84 19s. 8½d. out of £109 3s. 11d. of the tithe rent charge, he would be more anxious than the clerical titheowner to come to terms with the tithepayer and that therefore in such a case the tithepayer might reasonably expect to make a better bargain for himself.

8. We strongly recommend that legislation should be passed sanctioning a transaction of this kind. In this way we believe that much land might be made available for public purposes without raising a loan or the issue of stock. It is obvious also that the amendments we propose in the Tithe Act, 1850, would facilitate the process of tithe redemption by the ordinary methods of a cash transaction.

APPENDIX XIII.

THE SUPPLY OF ARTIFICIAL MANURES. (See para. 346.)

1. *Potash*.—Before the war practically the whole of the mineral potash used in this country for manurial purposes, amounting to about 23,000 tons per annum, was imported from Germany, and besides the German deposits there were only two other extensive deposits of potash salts known, the Spanish deposits in Catalonia and deposits in Abyssinia, the control over both of which Germans were endeavouring to secure.

2. We were, however, informed by Mr. Kenneth Chance, Managing Director of the British Cyanides Company, Ltd., that, as the result of experiments carried out under the direction of the Ministry of Munitions, he was satisfied that a sufficient supply of potash can henceforth be obtained, from the ores now dealt with in the United Kingdom, to provide all the requirements of this country for all kinds of use and at a reasonable price, provided that means were afforded for the perfection of the process and sufficient plant was made available.

3. We have since learnt with great satisfaction from the Controller of Potash Production at the Ministry of Munitions that a scheme for the production of potassium compounds has been approved by the Minister and that immediate steps are being taken under his instructions to develop this industry upon a national scale as quickly as possible. It would not be easy to exaggerate the importance to British and Irish agriculture of this discovery or of its consequent emancipation from German control in the supply of this manure.

4. *Basic Slag*.—This is a waste product containing the phosphorus, which is removed in the smelting of iron by the Thomas Gilchrist process, the raw slag being ground down to a very fine powder. Before the war the production of basic slag in the United Kingdom amounted to about 400,000 tons per annum, but the total internal consumption after deducting exports was only about 280,000 tons.

5. A large number of steel companies are extending their works and some are laying down extra plant to grind the slag produced. In other cases makers, who have the open hearth acid plant, are converting it to the open hearth basic process. It would appear, therefore, that the production of ground basic slag will be increased after the war, if the production of steel does not fall below the pre-war level.

6. *Nitrate of Soda*.—This fertiliser comes from Chili and its annual consumption in the United Kingdom for agricultural purposes was before the war about 80,000 tons. We are

informed that greater stocks have been accumulated in Chili during the war than at any previous period and that the reserves formed by the Ministry of Munitions in the United Kingdom for the manufacture of munitions should after the war become available for agriculture.

7. *Sulphate of Ammonia*.—This is a by-product obtained in connection with the distillation of coal tar, which is obtained principally from gas works and coke ovens. The pre-war production of sulphate of ammonia in the United Kingdom was about 300,000 tons a year, of which, however, a large proportion was exported, and its use for agricultural purposes was much more limited here than in Germany and other countries. It has, however, been more extensively used during the war owing to the scarcity of nitrate of soda, and it is probable that in the future it will be more and more sought after by British agriculturists.

8. *Nitrogen Products*.—With the largely increased area under cultivation which the adoption of our recommendation would bring about, the demand for nitrogenous manures in the future will be greater than anything we have experienced hitherto, and much larger quantities will have to be used if we are to secure from the soil the yield in produce that we look for. All sources of nitrogen supply must be tapped to the fullest extent, and we hope that the resources at our command in the matter of nitrogenous fertilisers may be so developed as to render this country, in the event of a future war, independent of foreign supplies. It is only in recent years that means have been discovered for combining atmospheric nitrogen in a form suitable for application as manure, but experience in other countries has amply demonstrated the possibilities that lie in this direction. We are gratified to learn that a special Committee appointed by the Government has already been dealing exhaustively with the question of nitrogen products, and is likely to make such recommendations as will, if adopted, go far to solve the problem of the supply of nitrogen in this country.

9. *Superphosphate*.—The average annual production of superphosphate during the years 1910-1913 was estimated to amount to 900,000 tons, of which 230,000 tons were exported and the rest consumed in the United Kingdom. The principal materials required for its manufacture are phosphate rock, which comes from Algeria, Tunis and the United States, and sulphuric acid, made from pyrites, which comes from Spain. There is a prospect of a good supply of superphosphate after the war. The supply of sulphuric acid has been largely developed for the manufacture of Munitions and should be plentiful, while the quantity of phosphate rock and pyrites will be limited only by the amount of freight available.

APPENDIX XIV.

TRANSPORT. (See para. 354.)

1. *Ordinary Railways*.—Concurrently with the growth of the import trade in competition with home-grown produce, there has long been a certain amount of friction between the farmer and the railway companies, the former alleging that undue advantage is given to foreign over home-grown produce; while the latter complain, with some justice, that the growers' lack of organisation make it impracticable for them to give the same facilities which are possible in respect of goods sent in bulk, carefully packed and graded, easily handled, and sent long distances. The Departmental Committee, set up in 1906 by the late Lord Onslow, when President of the Board of Agriculture and Fisheries, referred to the small amount of success which had attended efforts made by the companies themselves to induce home producers to co-operate with the object of sending their produce in larger quantities, and packed so as to give good loading in trucks, and reported that the evidence failed to show that the railway companies were giving undue preferential treatment to foreign and colonial produce. Most companies have now instituted schemes under which small packages can be dispatched cheaply and expeditiously directly to consumers, but the solution of the larger question would still seem to depend upon more effective combination among the growers themselves. So far as the ordinary railway companies are concerned, the grievances of farmers would seem to be directed against the rates charged rather than the services rendered, a branch of the subject which will be dealt with later under cost of transport.

2. *Canals*.—Where speed of delivery is not essential, canals would appear to afford an obvious and inexpensive means of transport in respect of goods, of which the bulk is high in proportion to the value, and which are not readily liable to damage. The Royal Commission on Canals and Waterways, 1906, dealt exhaustively with the general aspect of inland water transport, and compared the conditions obtaining in Great Britain with those found in certain continental countries, which have resulted in waterways being used for the carriage of goods to a much greater extent there than has been the case in this country. This has been particularly noticeable in the case of agricultural produce. Figures quoted in the Report of the Commission (Cd. 4979) for the year 1905 show that in France agricultural produce and manures dispatched by inland waterways amounted to 5,914,646 tons, or 17·4 per cent. of the total traffic carried by this agency, while in Belgium the amount of agricultural produce carried alone amounted to 17·5 per cent., manures being included under the head of Unclassified Goods. If the proportion between the agricultural produce and manures may be taken as approximately the same in the two countries, the total of manures and produce carried in Belgium would amount to about 23 per cent. of the total traffic. In England, on the other hand, the amount of agricultural produce, apart from foreign grain, carried by inland waterways is insignificant. The Report of the Commission points out that the Grand Junction Canal passes through nearly 100 miles of agricultural country. Yet, in 1905, out of a total tonnage of 1,794,233 tons carried over it,

only 5,812 tons consisted of English agricultural produce. During the same year 167,893 tons of town manure were carried by this canal to country districts. The development of the motor has since resulted in a diminution in the trade in town manure, but it will be seen that even in 1905 agricultural produce and manure together amounted to under 10 per cent. of the total traffic carried on this important canal.

3. The reasons given for the small use made of canals in Great Britain for the transport of farm produce were that farmers both buy and sell in small quantities, for which purpose it is more convenient to use railway rolling stock than barges; that farm roads lead to the main roads and railway stations and not to canal banks; that canal companies do not, generally speaking, like the railway companies, provide sheds where artificial food stuffs or manures can be protected from the weather. It was also pointed out that the greater part of England, especially the Midlands, have ceased to be arable and have been converted into permanent pasture, that the waterways provide too slow a form of transport for live stock, milk and butter, and that the amount of produce which might be sent by them has greatly diminished; further, that the eastern counties, in which much of the land is arable, and where formerly waterways were to some extent made use of by farmers for local purposes, are practically cut off from the Midland and Southern system of inland waterways.

4. The above reasons still operate against any immediate extension of the use made of canals for the carriage of agricultural produce, but if, as we anticipate, the proposals we have made result in a large additional area coming under the plough, this form of transit would seem to possess greater possibilities in the future. The substitution of motors for horses would accelerate delivery but would doubtless necessitate capital expenditure on the reconstruction of the canals, while further capital expenditure might be required for the construction of roads and the erection of receiving sheds. Unless the traffic seemed likely to make such expenditure a paying proposition, it is unlikely that the necessary capital would be provided, and an effort would, therefore, in the first place have to be made to induce farmers to act in co-operation to obtain or send larger quantities of goods by water.

5. *Short Distance Transport.*—It is, however, in connection with the facilities for short distance transport that we look for the greatest improvement in the future. These facilities should be provided as feeders for the ordinary railways with the object of both expediting and cheapening delivery to distant markets. Whether development will best proceed in the direction of an extension of the Light Railway Systems or by the organization of motor transport services, or by a combination of both remains to be seen.

6. In view of the large areas of land in good agricultural districts which are still four or five miles from the nearest railway, it is disappointing that the Light Railway movement has not proceeded with greater rapidity in this country. Doubtless this has been due in part to the comparatively close network of ordinary railways which exist and in part to the initial cost of promoting light railway schemes, but mainly, perhaps, to the difficulty in finding capital for an object from which the direct financial return is uncertain. This latter view is borne out by figures showing the number of schemes which have come under the consideration of the Light Railway Commissioners. In 52 cases Class A lines (i.e., lines on lands acquired, mostly steam motive power and such as would usually be employed for the carriage of agricultural produce), covering in all 632½ miles have been constructed; in 137 they have been authorised and the projects are still in being, though construction has not been commenced; in 100 they have been approved, but not yet authorised; while in 682 they have been authorised, but have since been abandoned owing to the necessary capital not having been subscribed.

7. The promotion of schemes received an impetus through the passing of the Light Railways Act, 1896, which empowers local authorities to construct and work light railways or to advance, by loan or otherwise, money to companies formed for that purpose. It also permits the Treasury to advance public money for the construction of light railways up to half the cost, if satisfied that local authorities, land owners, and other persons interested, have given all reasonable support to the project by the free grant of land or by other means. It is noticeable that between December, 1896, and the end of 1899, 123 applications in respect of railways Class A were received, involving 1,625 miles of line, estimated to cost nearly nine and a half millions sterling. Since then the numbers have dwindled appreciably, the total applications between the date last mentioned and the middle of 1917 being only an additional 135, for 1,150 miles of line at an estimated cost of about ten millions sterling. In view of these figures, the mileage of Class A lines constructed (532½ miles) cannot be looked upon as other than disappointing, especially in view of the large amount of good agricultural land still without railway facilities. The comparative failure of the light railway movement in this country has been attributed to the large cost of the Class A lines, which we understand averages about £7,000 per mile, and the difficulties which are experienced in obtaining necessary capital. How this should be remedied would seem to be outside the scope of our present authority.

8. The development of the mechanical road car during recent years would seem to have opened out new possibilities. Such a form of transport has the undoubted advantage that it is not restricted to any particular line of route, but can be organised to touch any points at which its services may be needed, and indeed, by calling at individual farms, may enable horses and men, which would otherwise be engaged in the delivery or collection of goods, to be more profitably employed in the cultivation of the land or other farm work. As an example of the existing uneconomic method of delivery, an instance has been quoted to us of half a dozen farmers sending half a dozen carts twice a day along the same road to deliver a few

churns of milk at a railway station, each as a rule bringing back merely an empty churn or two on the homeward journey. Where such a system prevails it is obvious that a motor service having for its object the collection of milk or other produce from farmers and smallholders in a given area for conveyance to the nearest market or railway station would be of great advantage. Requirements for the farms could be delivered at the next time of collection, and under such a system where the motor can be utilised in both directions, the cost of running per ton per mile would be considerably reduced. In this connection it should be remembered that it costs practically the same to run a motor lorry empty as it does to run it loaded.

9. The Agricultural Organisation Society, to which we are indebted for much useful information on the subject, state that they have long recognized the need for improvement in rural transport, if producers in country districts are to be linked up more closely with consumers in the towns. In the autumn of 1912 they placed before the Development Commissioners a number of concrete instances in which, in their opinion, motor transport services were desirable in the interests of agriculture, with the object of ascertaining the extent to which assistance from the Development Fund might be anticipated. At the request of the Commissioners the Society set themselves to obtain further particulars with regard to the cost of running, the best system of collection and distribution, the effect of local bylaws, and other matters, more detailed information upon all of which seemed necessary before any definite policy could be approved. As a result a considerable amount of information was collected and motor services were recommended in a number of districts. The matter, however, was allowed to stand over for the time being as the Development Commission had in the meantime appointed an expert to report on the whole question of motor and light railway transport. It was subsequently decided that consideration of the question in the abstract, with a view to a definite pronouncement applicable to all cases that might arise, would necessarily be accompanied by so many qualifications as to be practically valueless. It was, therefore, decided to take a number of concrete cases and to examine in some detail the conditions affecting the problem in each. Up to the present only one of these enquiries has been completed, that by Mr. G. A. Burla, M.Inst.C.E., upon the Relative Costs and Advantages as between a Light Railway and a Road Motor Service from Headcorn (Kent) to Robertsbridge (East Sussex). As a result of an exhaustive enquiry this gentleman arrived at the conclusion "that the existing light railway (the Kent and East Sussex Light Railway) deals with the goods and passenger traffic of the district at roundly 60 per cent. of the cost that would be incurred by a Road Motor Vehicle Undertaking doing the same work, thought it is, probable that the convenience both to the travelling and trading members of the community would on the whole be greater with the more expensive system."

10. Any attempt to define with exact precision the different spheres of activity between light railways and motor services would be impracticable. In determining which would best suit the needs of a particular district all the circumstances of the district would have to be considered, such as the class of trade and the configuration of the line of route and of the roads along which the motors would travel, if that form of transit were adopted. Mr. Burla, for instance, in his Report pointed out that the farm buildings in the district under consideration were not as a rule accessible to motor vehicles, that the tracks from the roads to the farm buildings being usually unmade, often steeply inclined and generally in bad condition, it would be impossible to take heavy motor vehicles over them. In such circumstances it is obvious that one of the great advantages of a motor service, that of relieving farmers from having to employ horses and carts in delivering produce to the carrying undertaking, would to a great extent be lost; but proper accommodation roads could be made, and in any case such conditions would not necessarily preclude individual farmers from co-operating to provide lighter motors for collecting the produce from the farms and delivering it to the undertaking.

11. Cases may doubtless occur where the amount of merchandise to be carried in a district would not justify the cost of constructing a light railway, although sufficient to warrant the establishment of a motor service; but as a rule it would seem likely that when the markets, to which the produce is dispatched, are distant, motor services would best act in combination with ordinary or light railways rather than in substitution for them. In this connection the following extract from the Report of the Light Railway Commissioners for 1911 is of interest:—

"With regard to the great development in recent years of motor traction upon public roads, it is of great interest to note that in our experience, confirmed by the two cases of proposed light railways which we have most recently had under consideration, the establishment of a service of motors (in each case combined with the organised co-operation of the agricultural and other local industries), had tended to stimulate the desire, and to the agricultural and other local industries, rather than (as it is sometimes supposed) emphasise the need, for better railway facilities, rather than (as it is sometimes supposed) would be the case) to supersede them, or to take their place. In these cases evidence was brought to show the considerable extent of saving to the road authorities in the annual cost of maintenance, which would follow from a transference to a railway of the traffic otherwise carried on the public roads; this point was also in accord with our previous experience as bearing on the economy of transport by railway.

"In making these observations, we appreciate that, in districts where it is not practicable to construct a railway and where the traffic is not sufficient to support one, a motor service (especially when combined with some "co-operative" system) may be of much use, and in many cases would develop the traffic to a point at which railway facilities would become requisite, and feasible, for the further progress of the district."

12. It has been stated that the cost of constructing light railways in this country, which averages about £7,000 per mile, is too heavy and has militated against their more general adoption, and that this might be remedied were lighter railways of narrower gauge laid down in place of those of the standard gauge now usually authorised. If, however, the view is

accepted that motors should as a rule act as carriers from the farms to the light railways, which in their turn should act as feeders to the ordinary railways, there is much to be said in favour of a uniform gauge in order that transhipment may be avoided and the same rolling stock be used throughout the journey.

13. Such a combination would have the further advantage that the roads would be relieved from the heavier forms of transport. We are informed by the Agricultural Organisation Society that local authorities have already shown a disposition to place restriction on the use of motor vehicles owing to the heavy wear and tear imposed on the roads, and that in the case of the Agricultural Co-operative Trading Society at Brandsby they were only restrained from claiming against the Society by a relaxation of the Board of Trade restrictions brought about by the intervention of the A.O.S.; further, that a scheme for introducing a system of motor transport in Anglesey was brought to a standstill by a report of the County Surveyor that the roads and bridges in the district were incapable of bearing the strain of such a system as that proposed. Some adjustment will ultimately have to be arrived at by the general improvement of the roads and by the strengthening of the bridges and culverts, but the cost in this respect will be lessened if the systems of transport adopted permit the use of lighter forms of motors calculated to cause the minimum of wear and tear. It should not be forgotten that in comparing the cost of running a motor service with that of a light railway the additional expense thrown upon local authorities in the necessary upkeep of roads is a material factor.

14. It has been pointed out to us that after the war large numbers of motors no longer needed by the Army will be placed upon the market, and that many of these will be suitable, when repaired and adapted, for various classes of Co-operative Societies according to their capacity; thus large lorries capable of carrying three tons would be suitable for trading societies and milk depôts covering a large area where no railway facilities exist; small lorries, with a capacity of $1\frac{1}{2}$ to 2 tons, might be usefully employed by smaller trading societies or depôts and by the larger small-holding societies with a quantity of fruit or market garden produce for sale; while ambulances carrying $\frac{1}{2}$ to 1 ton might be adapted for still lighter requirements, such as egg collecting, &c. We are of opinion that the opportunity of assisting agriculture thus offered should not be allowed to pass, but that a scheme should at once be prepared by a competent authority to enable a proportion at least of these discarded motors to be made use of in the organisation of transport services and for other farm purposes. We are informed by the Agricultural Organisation Society that the French Government has already taken steps in this direction.

15. The establishment of any co-operative system of motor transport must depend in the first instance upon a guarantee of adequate support from the farmers in the district which it is proposed to cover, and for whose benefit the service will be organised. This support should not only guarantee consignments sufficient to produce revenue large enough to cover running expenses, but should be permanent in character. Such conditions could best be fulfilled by the producers combining to form a Co-operative Trading Society, which would have the effect of making them jointly and severally interested in the success of the undertaking. Unfortunately such a method of procedure might give rise to difficulty were the Development Commissioners asked to co-operate in establishing the service. That this difficulty is recognised by the Commissioners is shown by the following extract from their Report of 1911-1912 (page 5) dealing with a somewhat analogous application from the Devon Sea Fisheries Committee for a grant of £10,000 to assist fishermen in their district in installing motors in their boats:—

"The Act itself gives no authority to make grants or loans either to individuals or to companies or associations of persons trading for profit. But the effect of this restriction is that sometimes the most direct way and simple method of giving effect to the purposes named in the Act is closed to the Commissioners. . . . The extension of light railways would in all probability be facilitated if loans could be made to existing companies, or to companies formed for the purpose of constructing and working lines, and possessing the right to receive for their shareholders a proportion of the net profits. The existing law, however, prohibits the direct support of this kind of scheme from the Development Fund; and the Commissioners recognise the difficulties and dangers which Parliament had in mind when laying down this prohibition." They go on to say, however, that they "think that the intentions of Parliament are not contravened if in these cases advances made by the authorities to individuals are either fair payments for experimental or other work, or are loans which are touched with no suspicion of charity. . . . The real question is whether the details of the scheme are based on the fundamental distinction between placing individuals in a better position to help themselves, and helping or probably hindering them by simply putting public money into their pockets."

16. Possibly some *modus vivendi* might be formulated in the direction indicated in the above extract. County Councils already have power through their organizers to promote agricultural co-operation, and it is probable that in some cases they would consider that the opening out of an isolated district, or the needs of a considerable section of the ratepayers, would justify them in helping to establish motor services. On the other hand, where such services might be expected to compete, instead of combining, with other carrying agencies, such as railway companies which contribute largely to the local rates, or with another class of the ratepaying community, such as tradesmen, opposition might be experienced which would make it impracticable for the County Councils to give such schemes their support.

17. In our opinion the need for better facilities of transport of every description in rural districts is urgent and immediate, if agriculturists are to be placed in a position to take full advantage of the recommendations we have made for the development of their industry, and are to be enabled to devote themselves to the cultivation of their holdings in the fullest

degree. But the matter is not one for the agriculturist alone; the industrial penetration of the countryside, which in some parts has been a feature of recent years, and which, with the improvement of telephonic and other means of communication and the growth of local rates in urban districts, seems likely to develop further in the future, makes it of a far wider national importance. The necessity for a prompt and ready delivery of milk, vegetables, and other agricultural produce, in such districts, as well as for the transport of goods manufactured or required by such communities, adds to the importance of the subject, and we recommend that the whole question should be made the subject of detailed enquiry and report by a Special Subcommittee of the Reconstruction Committee set up for that purpose.

18. Turning now to cost of transport, we have already stated that Mr. Burls, in the report on a special case made by him to the Development Commissioners, found that the cost of a motor service would be about 40 per cent. in excess of similar facilities provided by a light railway; but we are of opinion that any attempt to make a general comparison between the cost of the two systems, or to arrive at any general estimate as to the cost of motor transport, would be misleading. In the first place a motor service would not usually be organised in substitution for similar facilities provided by a light railway, but as complementary thereto, and in the second, the cost would depend so largely on the class of service required and the description of motors used, that a generalisation as to the expenses would be of little value. At the same time we are of opinion that an enquiry *ad hoc*, such as we have recommended, would result in the collection of a mass of detailed information on this head which could not but be of assistance to persons contemplating the establishment of such services.

19. On the subject of the cost of existing railway carriage, comparisons have not uncommonly been made by agriculturists to the detriment of our railway companies, and we have therefore endeavoured to obtain some information on this head. We are informed by the Board of Agriculture and Fisheries that while detailed information as to continental rates is limited, some information was collected by the investigators appointed by the Board of Trade Railway Conference, 1908, as to Germany (Cd. 4677) and Italy (Cd. 5108). It is stated that a comparison of the English rates with those of the Continental railways is rendered difficult by the fact that the rate in one case generally includes some service or condition the value of which cannot be estimated. For example, the supply of waggons on the English railways is generally liberal. The supply on the German railways, on the other hand, is extremely short. There is no doubt that a liberal supply of waggons is a great convenience to the farmer, and some allowance should be made for this convenience in comparing the English rates with the German. Grain, potatoes and plums have been taken as representing agricultural produce, because, with the information available, a comparison of the rates for these goods presents the fewest difficulties. The figures given as the English rates for these articles are not actual rates but averages of a number of rates to London from distances of 31 miles (=50 kilometres) and 124·2 miles (=200 kilometres). These distances appear to afford fair examples of long and short distance rates for traffic of the above classes. The Continental rates are the local rates. The Import, Export and Through rates are often much lower than these rates.

20. The following Table shows the rates (estimated as shown in the preceding paragraph) for grain, potatoes, and plums in pence per ton (English) for distance of 31 miles (=50 kilometres) and 124·2 miles (=200 kilometres):—

English Railways.

	31 miles = 50 kilometres. 124·2 miles = 200 kilometres.			
	Less than Truck Loads.	Truck Loads.	Less than Truck Loads.	Truck Loads.
	Pence per ton.	Pence per ton.	Pence per ton.	Pence per ton.
Grain	86·3	64·9	165·5	145·4
Potatoes	70·5	69·4	172·9	156·5
Plums	145·4	95·9	355·5	296·7

German Railways.

Grain—				
Fast goods	164·7	115·2	325·2	367·4
Slow goods	68·5	55·5	254·9	153·7
Potatoes—				
Fast goods	164·7	115·2	325·2	367·4
Slow goods	68·5	55·5	254·9	153·7
Plums—				
Fast goods	92·4	84·0	362·6	321·8
Slow goods	—	—	—	—

Italian Railways.

Grain—				
Fast goods	220·5	—	861·5	—
Slow goods	46·0	—	148·2	—
Potatoes—				
Fast goods	220·5	—	861·5	—
Slow goods	46·0	—	148·2	—
Plums—				
Fast goods	220·5	—	861·5	—
Slow goods	68·5	—	380·5	—

21. Apparently the English rates must be compared with the slow goods rates, as these are the rates generally used for agricultural traffic.

22. In considering the nature of the services for which the above charges are made, it is necessary to have special regard to the following circumstances.

Rapidity of Transport.

23. The time required by the German railways under their regulations for transport by slow goods is three days for 50 kilometres and four days for 200 kilometres. These periods commence at 12 midnight following the receipt of the goods and waybills, and they do not include time lost through any extraordinary disturbance of traffic for which the administration is not responsible. The period for delivery by slow train on the Italian railways appears to be also about three days for 50 kilometres and four days for 200 kilometres, exclusive of time during which goods are not accepted on account of congestion. The Board of Agriculture and Fisheries cannot say whether the railway authorities in Germany and Italy usually take full advantage of the time allowed, but having regard to the advantages from the traffic point of view of holding up small lots to make full truck loads, and holding up trucks to make full train loads, it seems probable that there is a tendency in that direction.

24. There is no time allowance on English railways. The only requirement is that delay must not be unreasonable. In practice rapidity of transit varies greatly between various points according to the amount of transhipping or shunting to be done. The time occupied by goods train London to Edinburgh, 389 miles, is 11 hours 38 minutes, and London to Liverpool, 169 miles, 7 hours 33 minutes, but these are, of course, exceptionally good transits. On the average, however, judging from the Board's experience of complaints as to delay, the time occupied in transit of goods on an English railway would appear to be very much less than on the German or Italian railways by slow goods, assuming that they take anything like the regulation period. Rapidity of transit is of great importance to traders in this country. It enables them to avoid the keeping of stocks with consequent expenditure on storage accommodation, and locking up of capital. Many traders would put rapidity and regularity of transport first, and consider the amount of the rate as of secondary importance.

Supply of Waggons.

25. The supply of waggons for agricultural produce on the English railways is apparently sufficient in normal times. Prior to the war no complaint was received by the Board of any difficulty in obtaining waggons. They were, as a rule, provided at very short notice, or (when a crop was known by the local railway officials to be coming forward) without notice. The time allowed for unloading waggons of grain and potatoes is 48 hours.

26. On the German railways the supply seems to have been extremely short. It was evidently a matter of great difficulty to obtain a waggon, and in order to make the supply go as far as possible the time allowed for clearing waggons was very limited. A farmer would generally get about 12 day hours, an arrangement which in this country would inflict great hardship. There is some doubt as to the sufficiency of the supply of trucks on the Italian railways. It is certain, however, that the regulations as to obtaining waggons are stringent. An application for a waggon must be accompanied by a deposit of about 4s. Waggons must be cleared within 36 hours.

27. A sufficient supply of waggons is of great importance to farmers. The expense of sending teams to the station on fruitless journeys, or having them kept waiting for the arrival of a truck, is a serious matter, and a higher rate with a good supply of trucks would probably suit most farmers better than a lower rate with a short supply.

Liability of Railway Companies.

28. In the matter of compensation for loss or damage to goods in transit, the position of the producer in this country seems to be better than that of the German farmer. Both in Germany and here there is a certain amount of traffic which the railway companies refuse to carry except at owner's risk unless packed to the satisfaction of the railway authorities. But in England this practice applies only to certain specified classes of goods, while in Germany the railway officials can refuse to accept traffic of any class unless packed to their satisfaction. As regards other traffic the position in England is that goods are carried either at company's risk rates, in which case the company are liable to make good the loss of or any damage to goods "in the receiving, forwarding, or delivery thereof occasioned by the neglect or default of such Company or their servant," or at reduced owner's risk rates offered as an alternative to the company's risk rates on certain conditions, one of which is that the company shall be relieved of their liability as carriers except in the case of wilful misconduct of their servants.

29. The German railways do not offer any reduced owner's risk rates, and it appears that at the ordinary rate the carriage of goods is practically at owner's risk. The railways are technically liable for loss or damage, but the regulations relating to their liability are so stringent that the prospect of obtaining any compensation must be very remote. For example, under these regulations liability is repudiated if the loss is due to defective packing or loading or to the nature of the goods, and a proviso to the effect that if injury could have arisen from these causes it will be presumed that it has so arisen, seems to reduce the possibility of obtaining compensation to a minimum.

Recently the Royal Society have made an estimate for the United Kingdom from which I find that about 38 per cent. of the food consumed by our people is home-grown.

This means that of a total population of 46½ millions we could feed 17·6 millions or that we grow supplies for 19·7 weeks per annum.

4. Taking 100 acres of ploughed land in the United Kingdom with the crops as at present distributed, and assuming the average crops to be those of the past 10 years I estimate that each 100 acres under the plough would supply a year's food for 84 persons.

There are 12,808,000 acres of ploughed land in the United Kingdom so that if my estimate is approximately correct 10·8 million persons would be fed. This would leave 6·8 million to be fed by the produce of grass land or 20 persons per acre.

5. The assumption that grass supports only 20 persons per 100 acres (since it is got by difference) must be tested.

I propose to test it by two methods:—

(a) Let us consider the quantity of meat and milk to be produced by grass and the probable yield from grass.

In the case of the ploughed land above referred to, I have assumed two-thirds of the fodder to be converted into meat and one-third to be converted into milk. The total yield of meat would then be 226,000 tons, leaving 886,000 tons to come from grass land.

The total yield of milk would be 211 million gallons leaving 806 millions to come from grass land. (Meat and milk produced from imported feeding stuffs have been deducted).

There are 34 million acres of grass available; of this total 1,800,000 horses will want 5,400,000 acres (in addition to rough grazing). This leaves 28,600,000 acres for cattle and sheep.

In my paper on "System of Farming" I estimated that medium grass land would produce 105 lbs. meat per acre; that is, would supply "energy" for 20 persons per 100 acres. I further estimated that grass land of good quality would produce on the average 2,000 lbs. milk for sale per acre or "energy" for 64 persons per 100 acres.

It is not possible to say how far these may be "average" figures for the whole of the United Kingdom; the meat figure is probably somewhat above the average and the milk much above the average. If, however, we assume that one of the two estimates is an average, we can test the extent to which the second departs from the average. Assume my figure of 105 lbs. per acre to be an average for the United Kingdom for meat production, then in order to produce 886,000 tons of meat it would be necessary to provide 18,470,000 acres of grass land; this would mean that 10,150,000 remained for the production of 806 million gallons of milk, and this would represent a supply of "energy" for 22 persons per 100 acres.

Our first estimate was that grass land supported about 20 persons for 100 acres; testing it in this way by the above method we reach the conclusion that grass land on the average supports rather less than 21 persons.

(b) A third estimate of the productiveness of the grass land of the United Kingdom may be made by assuming that on the average the productiveness of pastures is equal to the productiveness of meadows.

This is of course a very speculative method of approaching the question; but it is worth while following it up. It may be observed that while meadows occupy much the best land, pastures have a longer season of growth and have the aftermath of meadows thrown in.

We have in the United Kingdom:—

	<i>Permanent Grass.</i>	<i>Rotation Grass.</i>
	<i>Acres.</i>	<i>Acres.</i>
Total area	27,300,000	6,600,000
Deduct for Horses	3,800,000	1,600,000
	<u>23,500,000</u>	<u>5,000,000</u>

There are 4½ million cows and heifers in calf in the United Kingdom. Assuming one-fifth to be supported on the products of ploughed land, we get 3,600,000 left to be kept on grass, and, at 3 acres per head, 10,800,000 acres grass would be required. This is a full estimate, since many cows are kept for calf-rearing. We may apportion the different kinds of grass land as follows:—

	<i>Permanent Grass.</i>	<i>Rotation Grass.</i>
	<i>Acres.</i>	<i>Acres.</i>
For milk production	2,000,000	1,800,000
For meat, "	14,500,000	3,200,000

If now we assume that this grass land yields as much fodder per acre as the average hay crops of the past ten years, then there should be enough food produced by each type of grass land to support the following population:—

23,500,000 permanent grass	...	...	4,683,000 persons.
5,000,000 rotation grass	...	...	1,104,000 "

On the actual area assumed to be under cattle and sheep this would give 20·6 persons per 100 acres; but our estimate must be on the total grass area of 33·9 million acres, and, if we calculate the number fed on this area we find that we should support 17 persons per 100 acres as compared with 20 and 21 in the two previous estimates.

These methods of estimating are admittedly speculative, but each approaches the subject differently and the agreement is close. The conclusion I draw is that per unit of area the ploughed land of this country supports about four times the population maintained by its grass land.

It should be carefully noted, however, that food value is estimated in terms of "energy" and that if we considered also the supplies of protein and fat, grass land would appear in a somewhat better light.

REPORT

BY

SIR MATTHEW WALLACE.

To the Rt. Hon. D. LLOYD GEORGE, M.P., Prime Minister.

SIR,

1. I had hoped to add my name to those of my colleagues to Part II. of the Sub-Committee's Report which claims to deal with that portion of the remit relating to the methods of effecting "an increase in the home grown food supplies." I regret, however, that I am unable to do so since the Report declares that the constructive proposals of Part II. are contingent upon the policy indicated in Part I.; that the two parts are "strictly interdependent and mutually essential parts of one policy" and that "without the armour of Part I. the measures of reconstruction recommended in Part II. are foredoomed to impotence."

2. I cannot accept this view. On the contrary, further consideration and the experience of the past year, confirm me in the belief that the arbitrary fixation of prices of agricultural produce is the most unstable of all foundations upon which to build a great constructive policy of agricultural development in view of the attendant confusion and the constant change of values consequent upon the mutually conflicting claims of producer and consumer. However necessary and justifiable the control of such prices may be in time of war, I am persuaded that such a policy cannot endure when normal times return.

3. Still more emphatically do I dissent from the rejection of the principle of security of tenure for the tenant farmer. In my dissentient memorandum to Part I. (paragraph 15), I said: "In formulating an agricultural policy the first thing to be considered is, in my opinion, security and stability to the farmer. Security that is, in his tenure and in the fruits of his enterprise. No man can be expected to put forth his utmost efforts in creating national wealth and prosperity for himself which another may take. In my opinion the time has arrived when in the interests of the State, this question must be resolutely faced. Only in such an event can compulsion of the farmer be justified." I adhere to that statement. Reconsideration of this question was forced upon the Sub-Committee by the representations of public bodies such as the National Farmers' Unions of England and Scotland and the Welsh Agricultural Council, nevertheless their considered reply in paragraph 365 is a definite rejection of the principle of security of tenure to the tenant farmer. No better alternative is suggested than the reassertion of what is described as the "ancient principle," summed up in the last sentence of that paragraph, viz.: "That principle is that an owner or occupier of land must hold it with a full sense of his responsibility and duty to use it for the security and welfare of the nation and that in case of flagrant abuse the intervention of the King's officers is justified."

4. I cannot regard that as a sufficient guarantee to a tenant farmer to improve and increase his tillage, his capital, his risk and his activities. Increase of tillage enormously enhances and extends the tenant's interest in the land, and if the revival of tillage prognosticated in the report (in the need for which I entirely concur) is to be achieved it is plain that the farmer must assume responsibilities and risks increased in manifold degree. Operations must be engaged in, the success of which can only come as the result of efforts extending over a number of years. In order to add 2,000,000 acres to tillage, farmers must provide at least £20,000,000 extra capital, and I have difficulty in regarding as serious the suggestion that farmers should make all these efforts with no other security against the termination of their tenancy than the "sense of responsibility and duty" of the landlords who may or may not be in a position of full authority and who may at any moment sell their land.

5. In the report (paragraph 365) the principle of security of tenure is rejected on the ground that the landowner and tenant farmer are partners in the cultivation of the land and that the inevitable result of the establishment of a Land Court to fix rents would be that the landlord would decline to spend another penny for the industrial equipment of the land, while the farmer could not find the capital. I cannot agree with this view. The landlord of a farm is not the partner of the tenant either in form or substance. Their relationship differs essentially from that of partnership, and as to the rent which is the main consideration between them their interests are in direct conflict.

6. As to refusal by the landlord to expend further capital I do not believe that the expenditure of capital is made by landlords as a contribution to an imaginary partnership, but mainly and quite properly from the point of view of enabling them to get a better and more stable return by way of rent.

7. Nor is there any justification for the assumption that "the inevitable result of the establishment of a land court to fix rents would be that the landlords would decline (as every one else would in their place) to spend another penny for the purpose" of industrial equipment of their land. On the contrary I believe it would have the opposite effect, for the landlord who failed to maintain the equipment would be liable to have his rent reduced in consequence.

8. The Report of the Sub-Committee puts the responsibility for the proper use of land on the shoulders of both owner and occupier as a national duty; but if this principle be accepted, in my opinion it would inevitably follow that an impartial tribunal would have to be established in order to secure that such responsibility is equitably distributed as between landlord and tenant.

9. Such a tribunal is necessary apart from any question of special subsidies by way of increased prices or otherwise, but the expenditure of public money in order to promote better cultivation would undoubtedly add another and unanswerable reason for its establishment. It is inconceivable that public money should be provided for encouraging the tenant to improve and extend his cultivation without clear and effective provision to ensure that it would not to any extent be diverted to the landlord by way of increased rent or increased price of his land.

10. There is one part of the constructive portion of Part II. of the Report from which I feel obliged to dissent, viz., that relating to the Scottish Board of Agriculture and Agricultural Education.

11. I cordially approve of the recommendations of the Committee that agricultural education in Ireland should continue under the Department of Agriculture and Technical Instruction for Ireland, and that agricultural education in England should be controlled by the Board of Agriculture and Fisheries. I can see no reason, however, why this system of education, which is considered suitable for England and Ireland, should not be applied also to Scotland. The Committee recommend that the Board of Agriculture and Fisheries should be free to use the existing provincial councils, and the county agricultural committees (which it is proposed to set up on a statutory basis), as its agents for agricultural education, and for live stock schemes. They also suggest that the Board of Agriculture and Fisheries should be responsible for the provision and control of farm institutes, demonstration plots and farms, while specifically excluding Scotland from this recommendation. I strongly dissent from such exclusion.

12. The County Committees should be the authorities for development schemes and for the educational extension work of the Board of Agriculture for Scotland. To these Committees should be entrusted, subject to the control of the Board of Agriculture, such work of agricultural development, including the administration of the live stock schemes and of schemes of practical and technical agricultural education—as can be conveniently decentralised.

13. Each committee, or combination of two or more of them, would require the whole time services of an organising secretary, and its own staff of experts for carrying out the new and enlarged programme. A well trained local staff working under the supervision and direction of a committee having an intimate knowledge of local needs could not fail to be more effective in arousing local interest and sympathy than a system under which short periodic visits are made by an official from the central authority or, as is the case at present, from a distant collegiate centre.

14. The position of the agricultural colleges requires reconsideration. They have an important part to play in the new work of agricultural reconstruction. In recent years they have been called upon to undertake administrative duties which should now be done by the Board of Agriculture or delegated by that Board to the proposed new county committees. If this change is not made, two separate staffs will be in existence, one from the colleges and one from the Board working in the same area and controlled by different authorities. This cannot fail to result in waste and overlapping.

15. The agricultural colleges should not be allowed to dissipate their energies in administrative duties. Their primary function should be higher education, research and advisory work. From them the technical staffs of the County Committees would be recruited and to them they would look for inspiration and scientific direction. For these purposes the proper centre is in the Universities. It is only by the inclusion of agriculture as a faculty of the Universities, with the status and environment associated therewith that the highest class of education and research can be maintained. But the practical technical instruction of the farmer in the business of farming must be undertaken by institutions other than Universities.

16. The great mass of the rising generation of farmers in Scotland cannot be affected by the type of agricultural college at present in existence, but must be reached by less ambitious, more practical and more numerous institutions within easy reach of the students for whom they are intended. The type of institution which produces the widest and best effect upon the improved practice of agriculture is well illustrated by the Kilmarnock Dairy School. This school has combined most efficiently theoretical with practical instruction. It has obtained the confidence of farmers and has revolutionised the dairy industry in Scotland.

17. Similar institutions should be set up for other branches of agriculture, as for example, grain and potato growing, cattle management and cattle feeding, stock raising and pastoral farming, intensive cultivation with pig and poultry rearing, and fruit farming and market gardening. Schools of this description will draw large numbers of young men and women who would never attend an agricultural college.

18. For those, however, who cannot give up a definite number of weeks or months for such special instruction, the continuation classes of the Scotch Education Department which we may expect to see developed, and the winter school, offer the best solution.

19. It is obvious that the Board of Agriculture for Scotland and the Scottish Education Department come into touch in the primary phases of agricultural education, and to ensure co-ordination, a statutory committee composed of representatives of both departments should be set up to harmonise the work.

20. It is clear that the adjustments suggested above imply a reconsideration of the finances of the Board. I agree with the Sub-Committee that the schemes of development should not be dependent upon short term grants from the Development Commission and would point out that much of the success of the Irish Department is due to the unhampered expenditure of its endowment fund subject to the supervision of the Agricultural Board which represents the industry.

(Signed)

MATTW. G. WALLACE.

18th April, 1918.